

Cellular Expression of β_2 AR- β gal $\Delta\alpha$ Fusion Protein in C2 Clones
(measured by anti- β -gal ELISA)

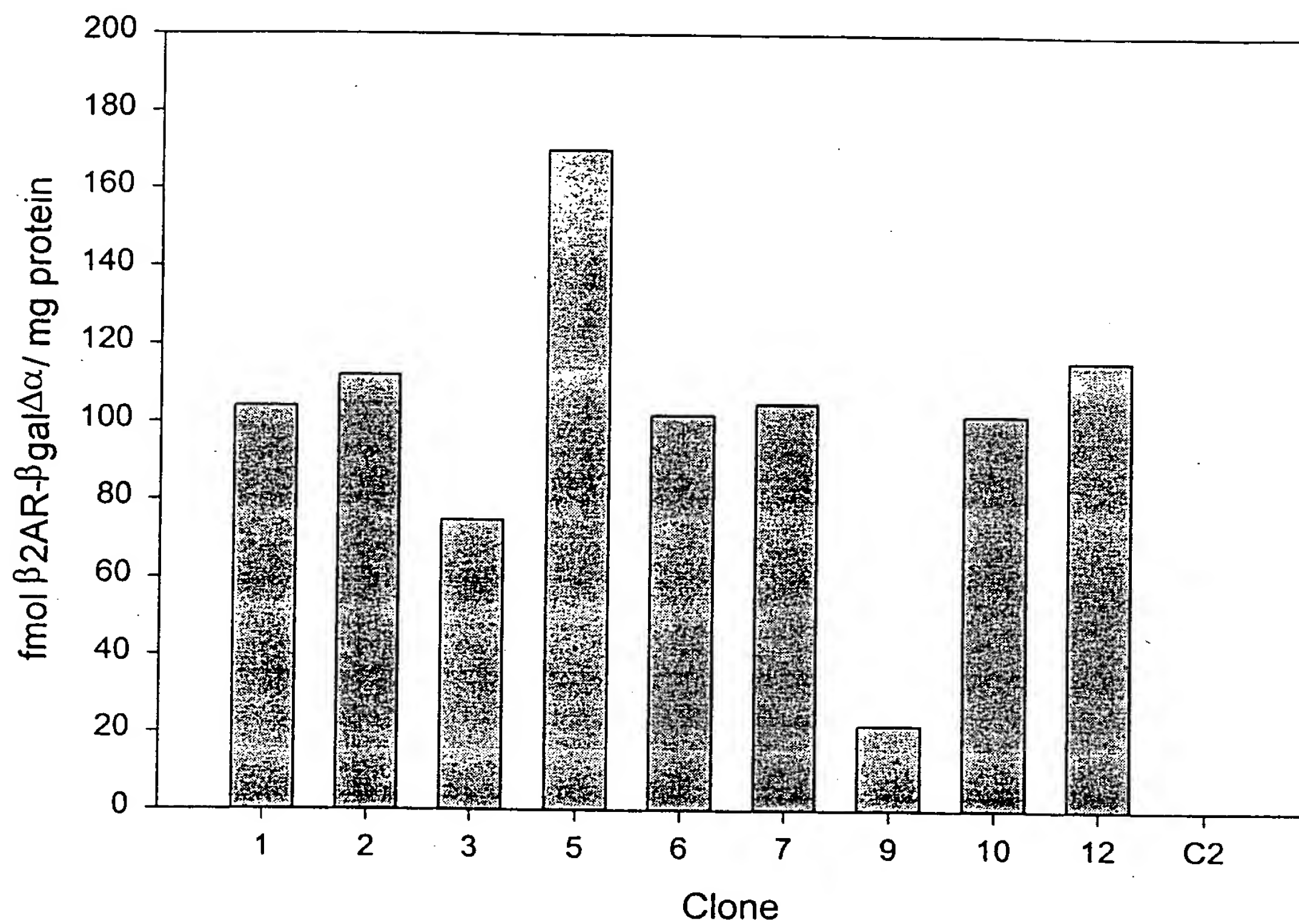


FIGURE 1A

Cellular expression of β Arr2- β gal $\Delta\omega$ fusion protein in C2 clones
(measured by anti- β gal ELISA)

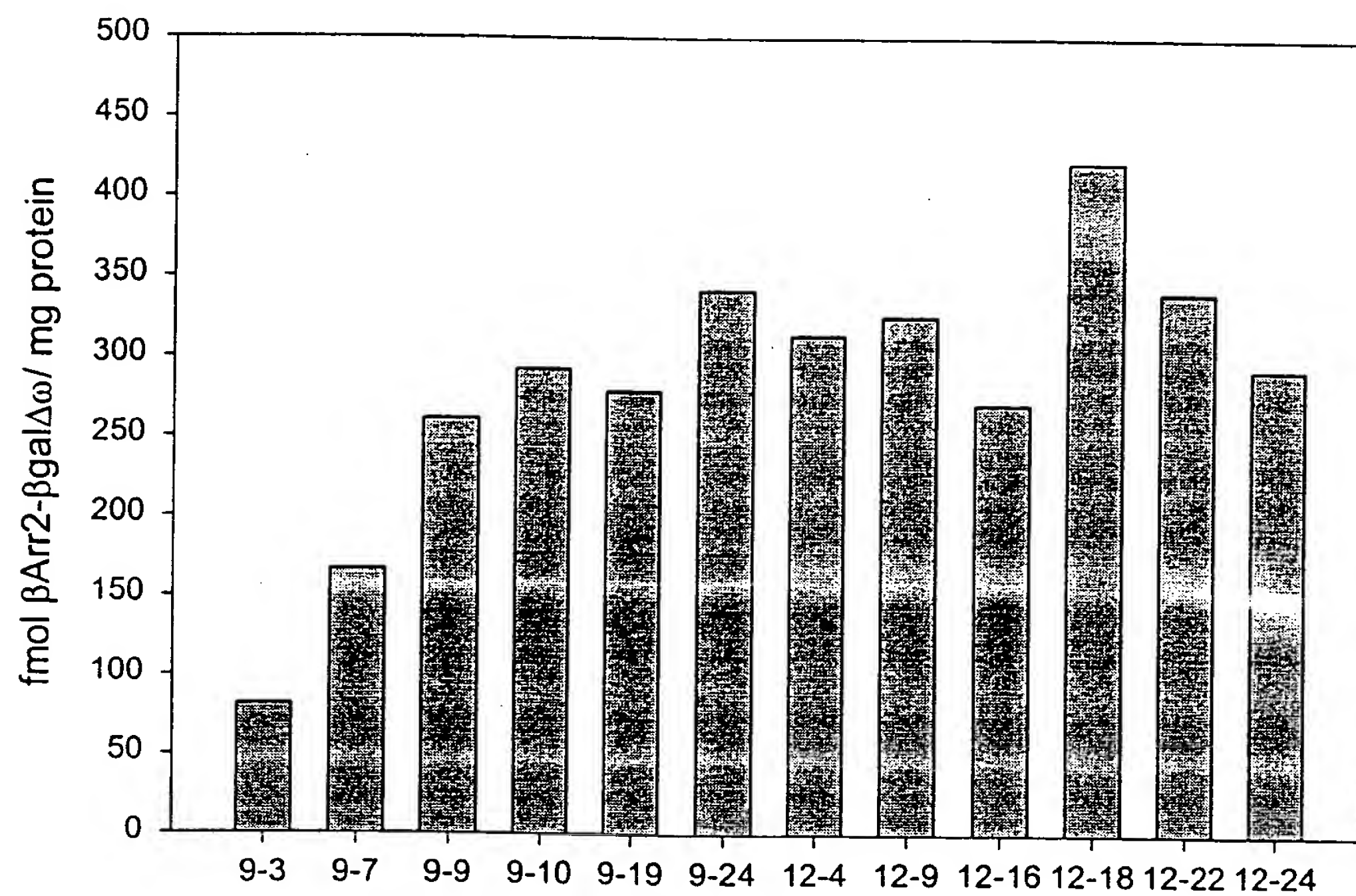


FIGURE 1B

Agonist Stimulated cAMP Response in C2 Cells Expressing $\beta 2AR\text{-}\beta gal\Delta\alpha$

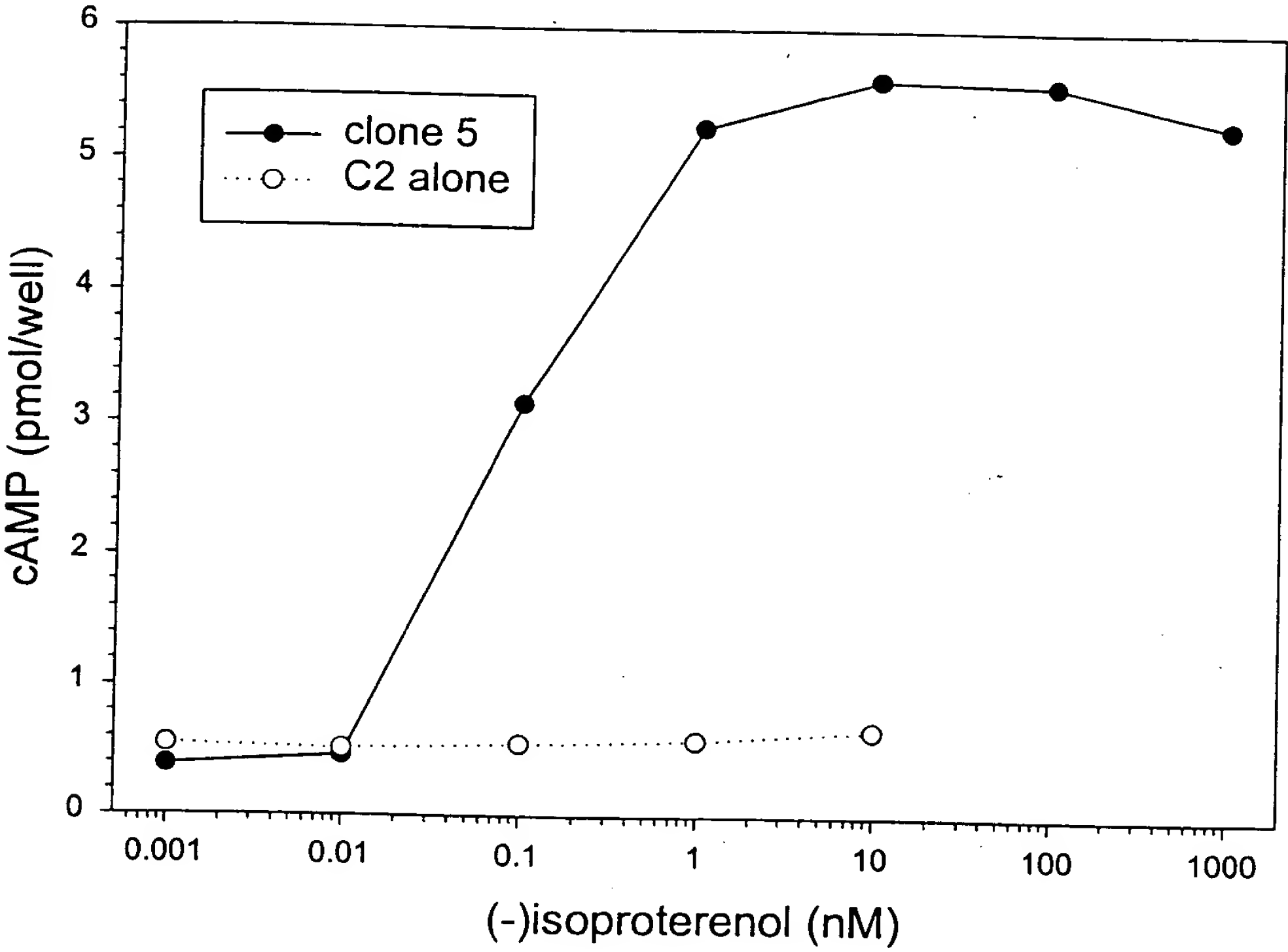


FIGURE 2

β -galactosidase Complementation as a Measurement for β 2AR- β gal $\Delta\alpha$ interacting with β Arrestin2- β gal $\Delta\omega$ upon agonist Stimulation

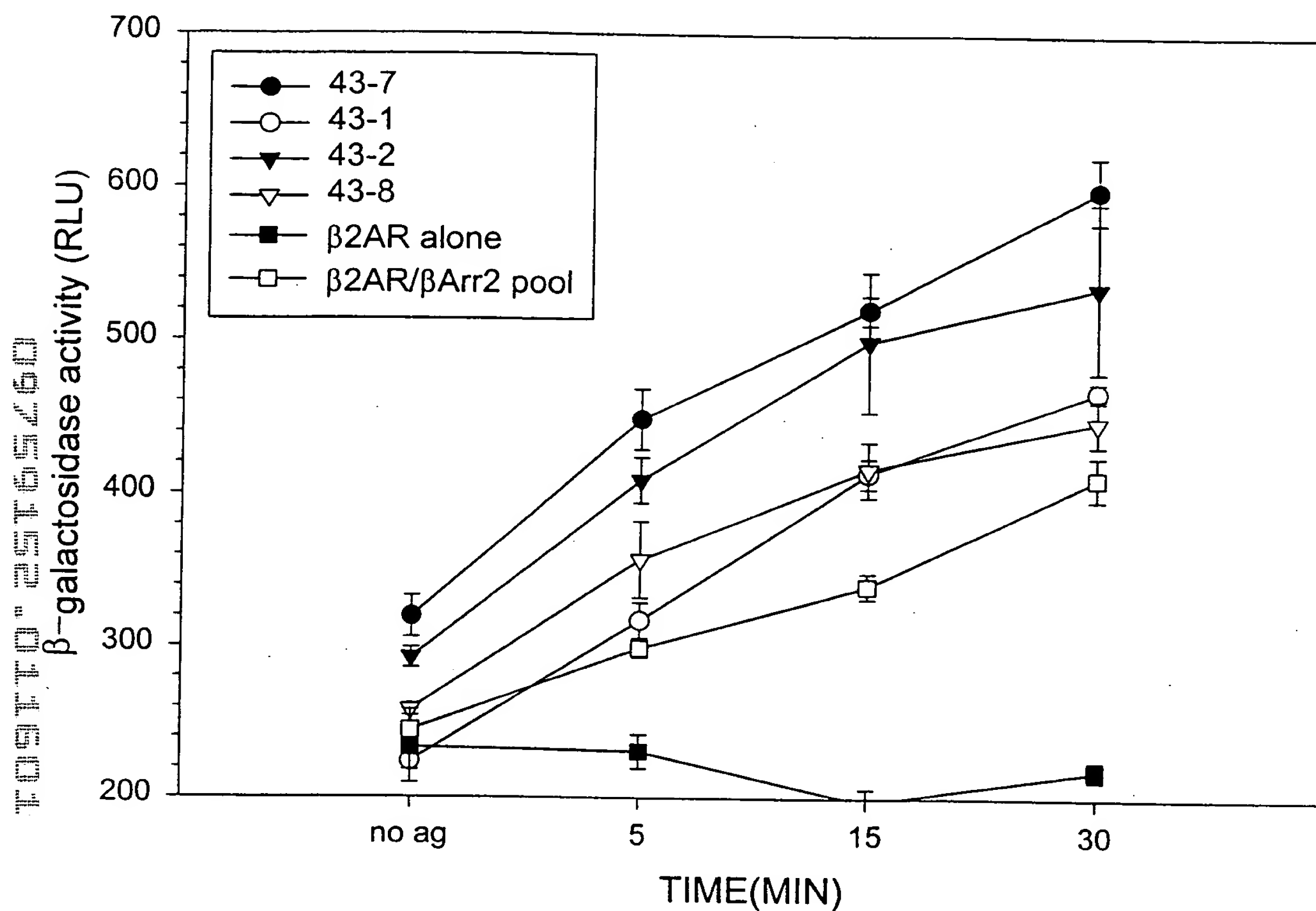


FIGURE 3A

β -galactosidase Complementation as a Measurement for β 2AR- β gal $\Delta\alpha$ Interaction with β Arrestin1- β gal $\Delta\omega$ upon Agonist Stimulation

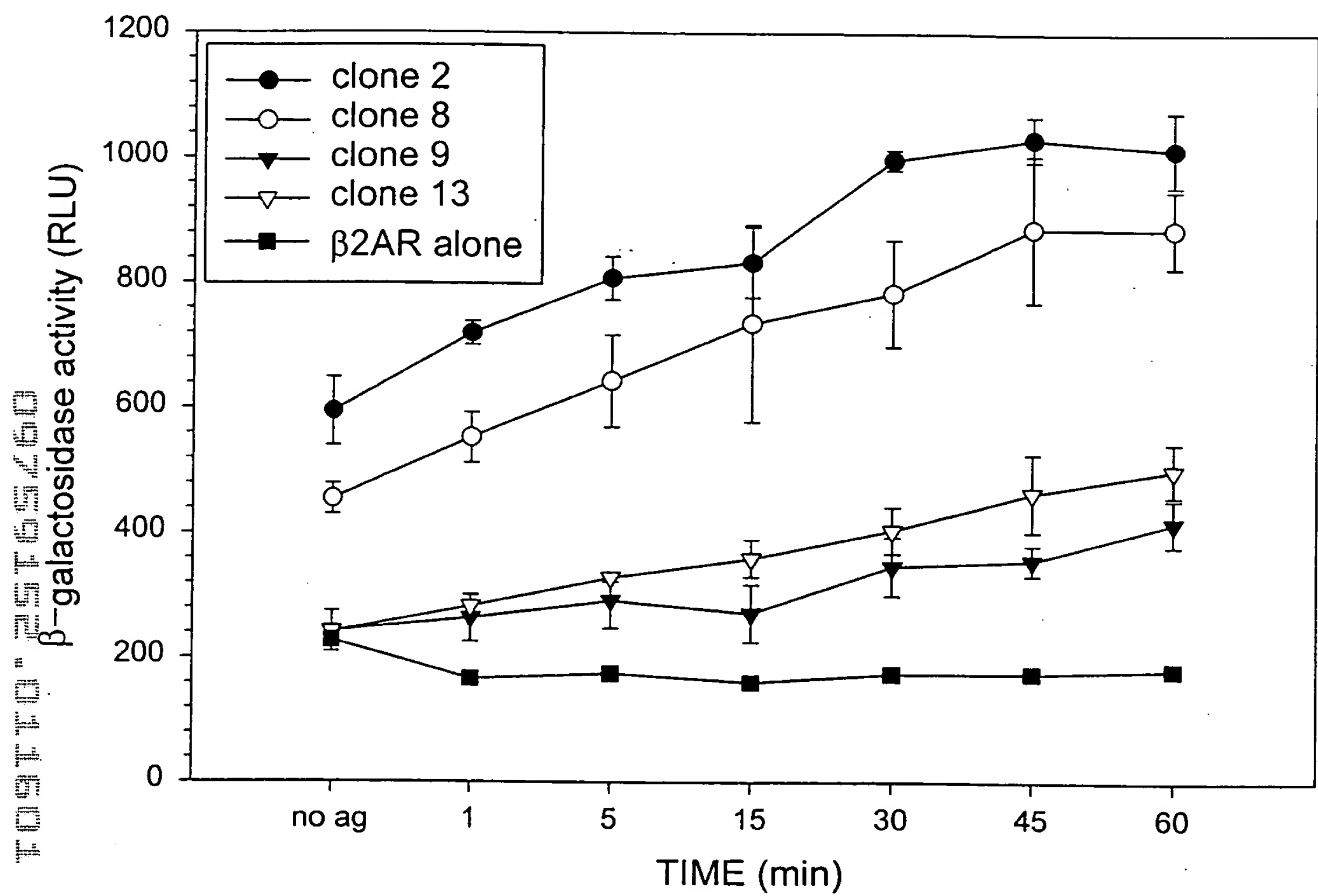


FIGURE 3B

β -galactosidase Activity in Response to Agonist in C2 Cells
Coexpressing β 2AR- β gal $\Delta\alpha$ and β Arrestin2- β gal $\Delta\omega$ Fusion Proteins

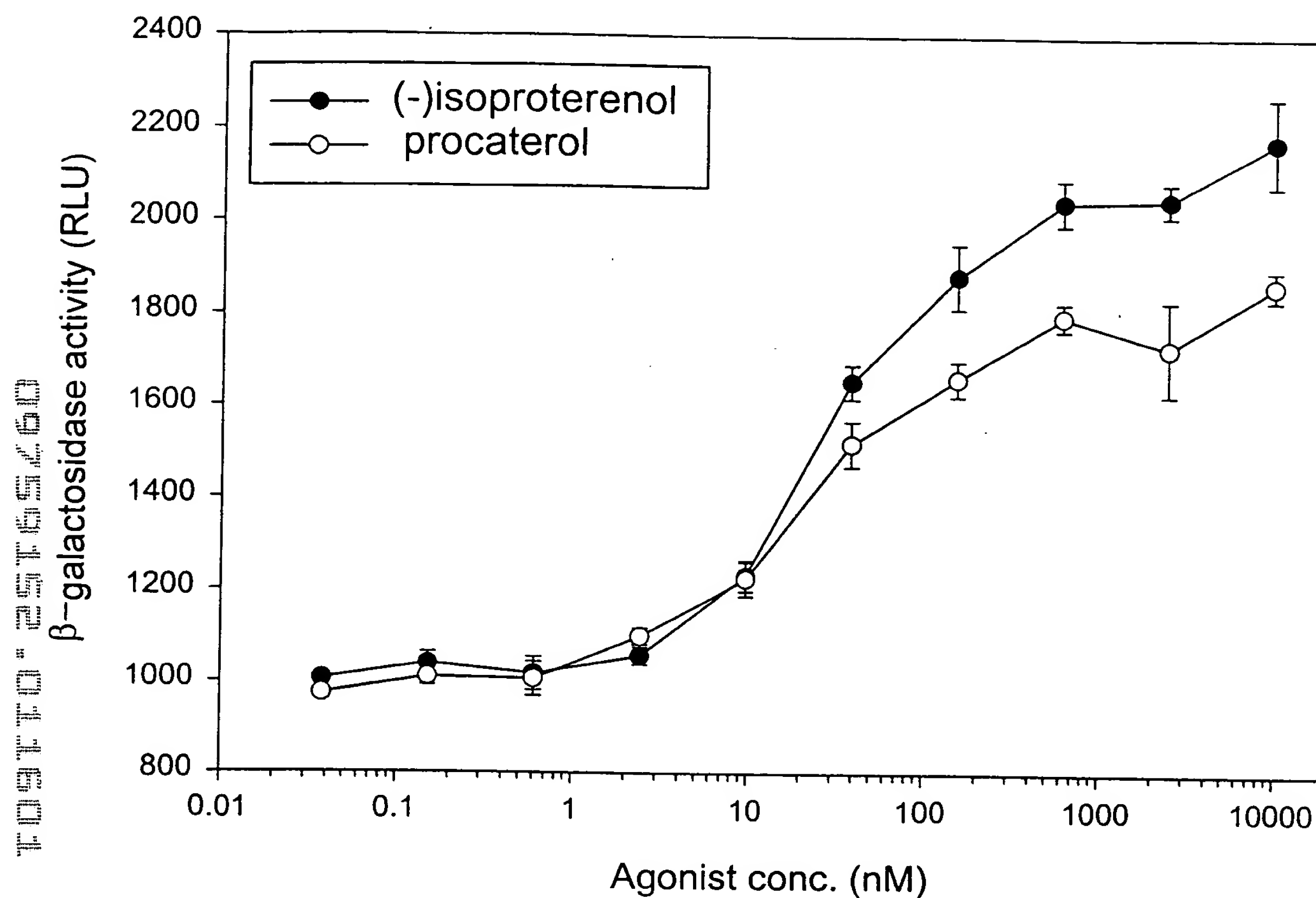


FIGURE 4A

β -galactosidase Activity in Response to Agonist in C2 Cells
Coexpressing β 2AR- β gal $\Delta\alpha$ and β Arrestin1- β gal $\Delta\omega$ Fusion Proteins

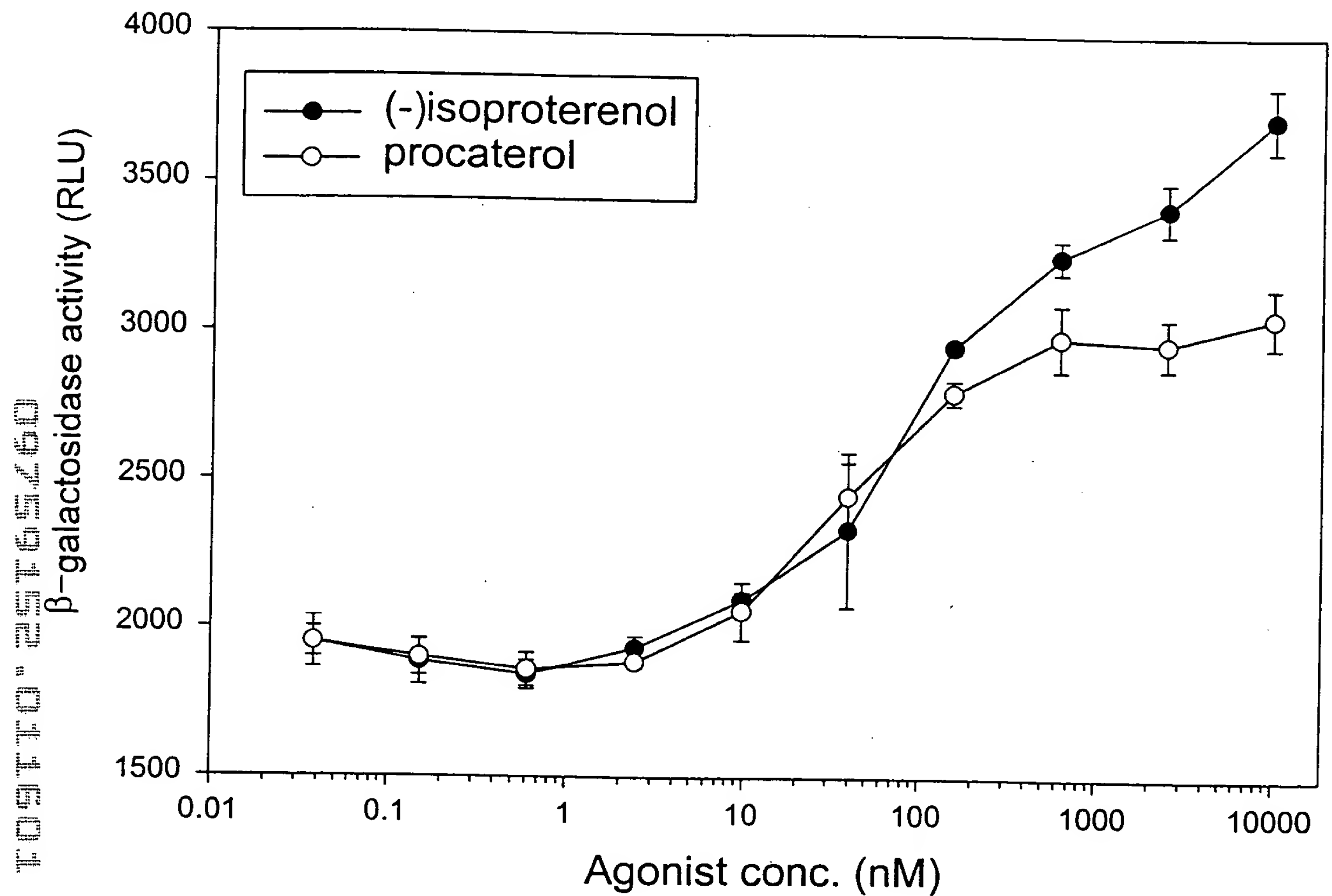


FIGURE 4B

Inhibition of β -galactosidase activity in C2 Cells Coexpressing β 2AR- β gal $\Delta\alpha$ and β Arrestin2- β gal $\Delta\omega$ Fusion Proteins

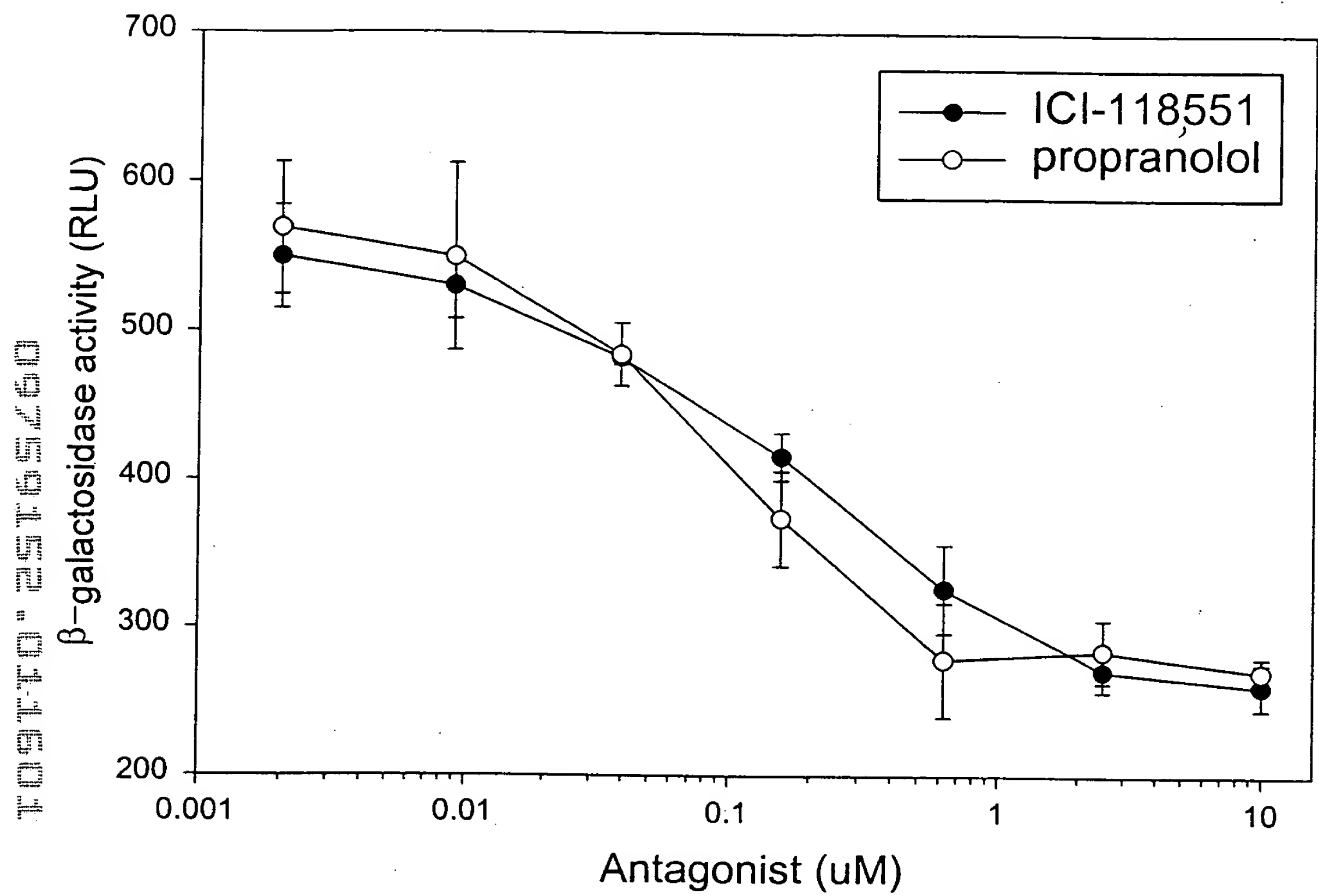


FIGURE 5A

Antagonist Inhibition of β -galactosidase Activity in C2 Cells
Coexpressing β 2AR- β gal $\Delta\alpha$ and β Arrestin1- β gal $\Delta\omega$ Fusion Proteins

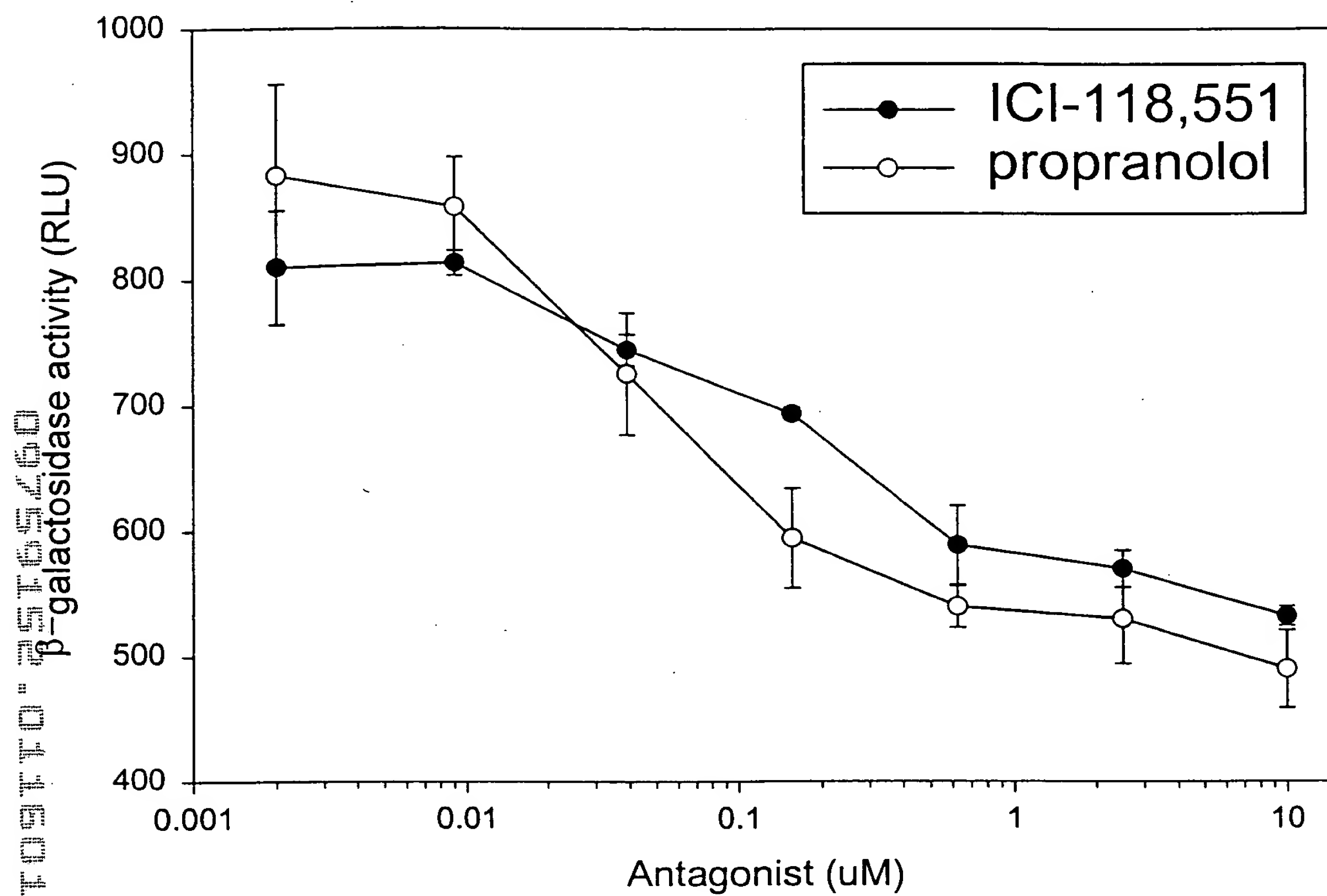


Figure 5B

Agonist Stimulated cAMP Response in Clones or Pools of C2 Cells
Coexpressing A2aR- β gal $\Delta\alpha$ and β Arrestin1- β gal $\Delta\omega$ Fusion Proteins

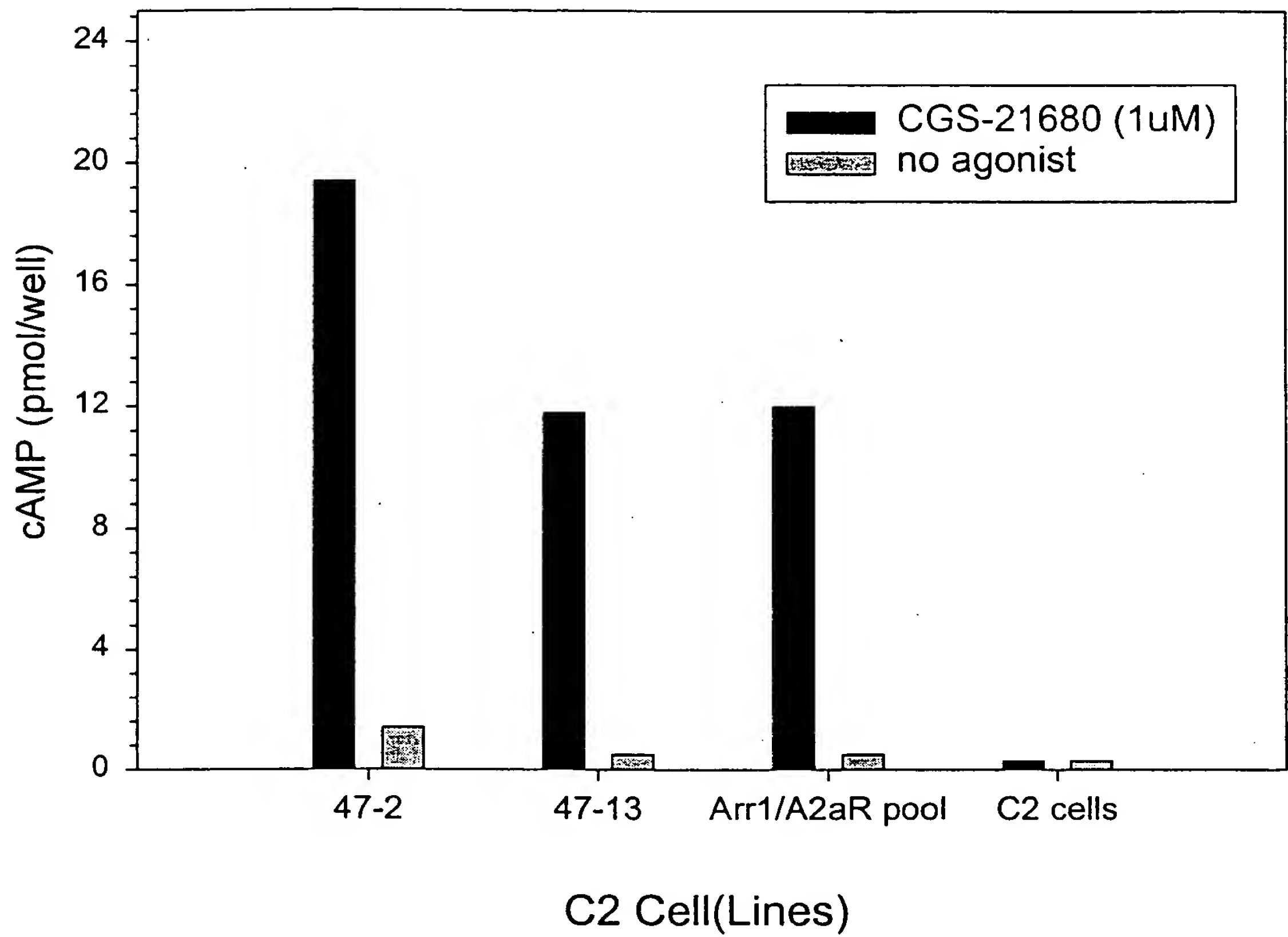


FIGURE 6

Agonist Stimulated cAMP Response in Clones or Pools of C2 Cells Expressing D1-βgalΔα and βArrestin2-βgalΔω Fusion Proteins

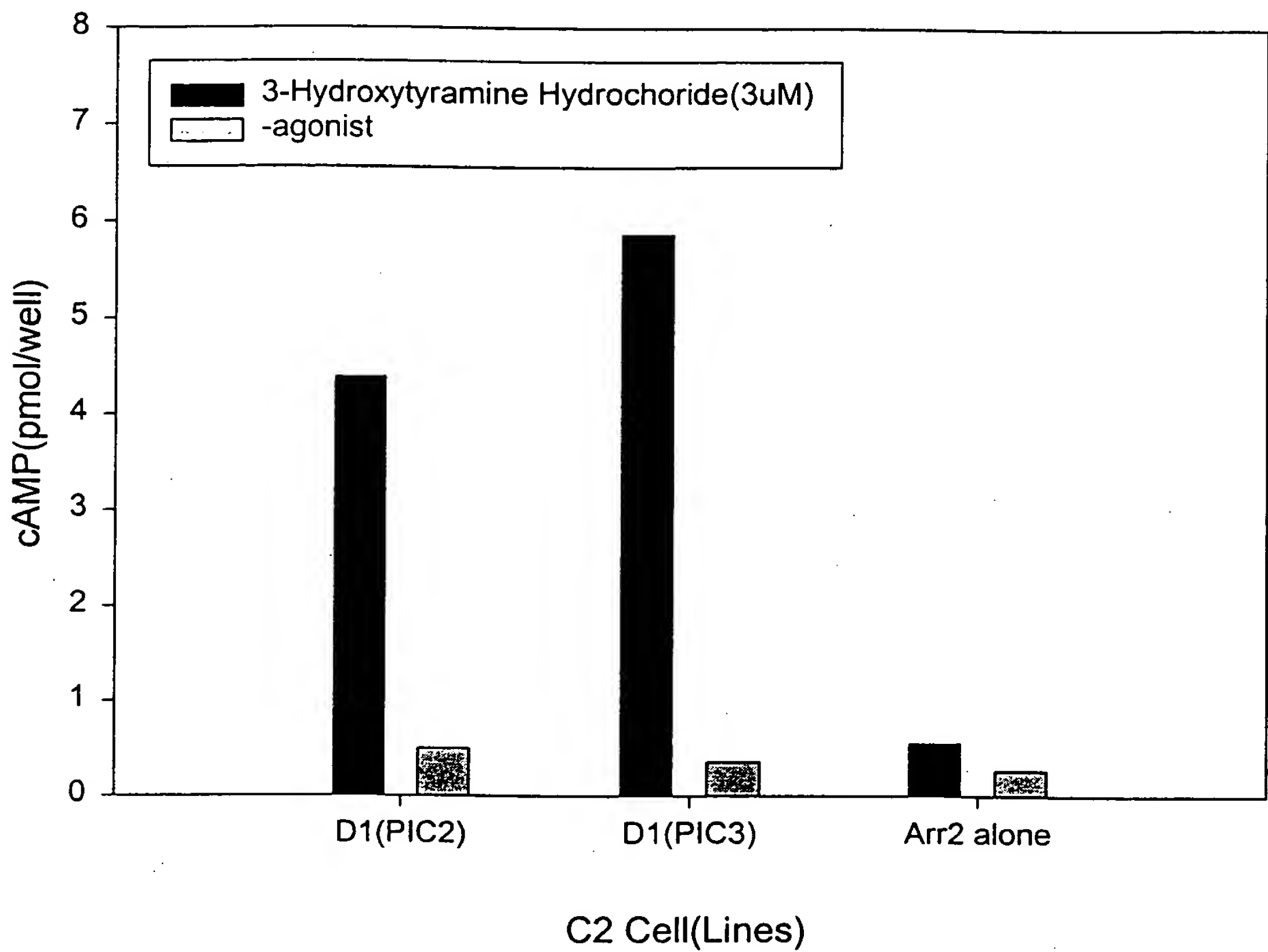


FIGURE 7

**β_2 AR- β gal $\Delta\omega$ and β arr2- β gal $\Delta\alpha$ Interaction in HEK293
Clones in Response to Isoproterenol Treatment (1 μ M)**

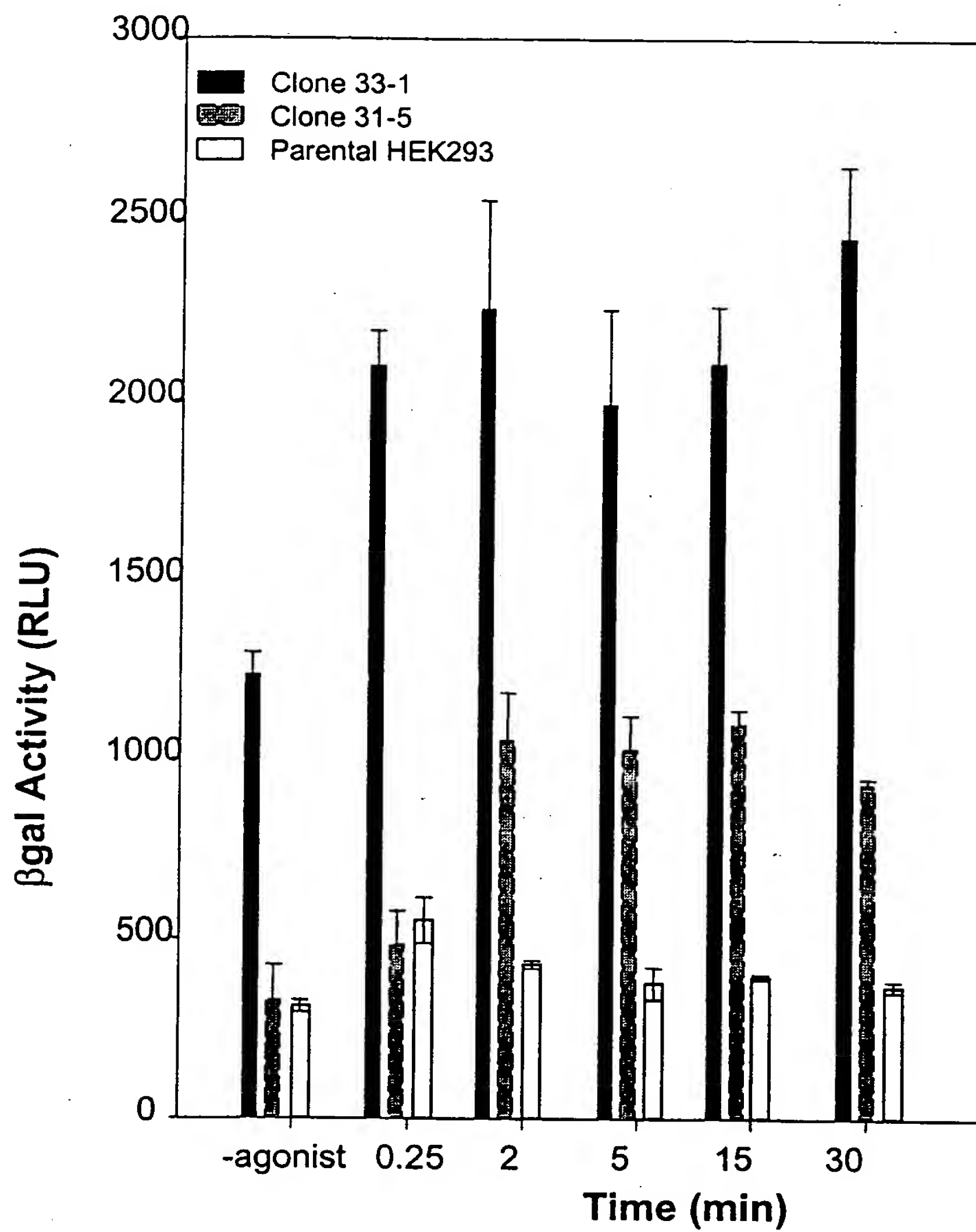


FIGURE 8A

$\beta 2AR$ - $\beta gal\Delta\alpha$ and $\beta Arr1$ - $\beta gal\Delta\omega$ Interaction in a CHO Pool
in Response to Isoproterenol Treatment(10uM)

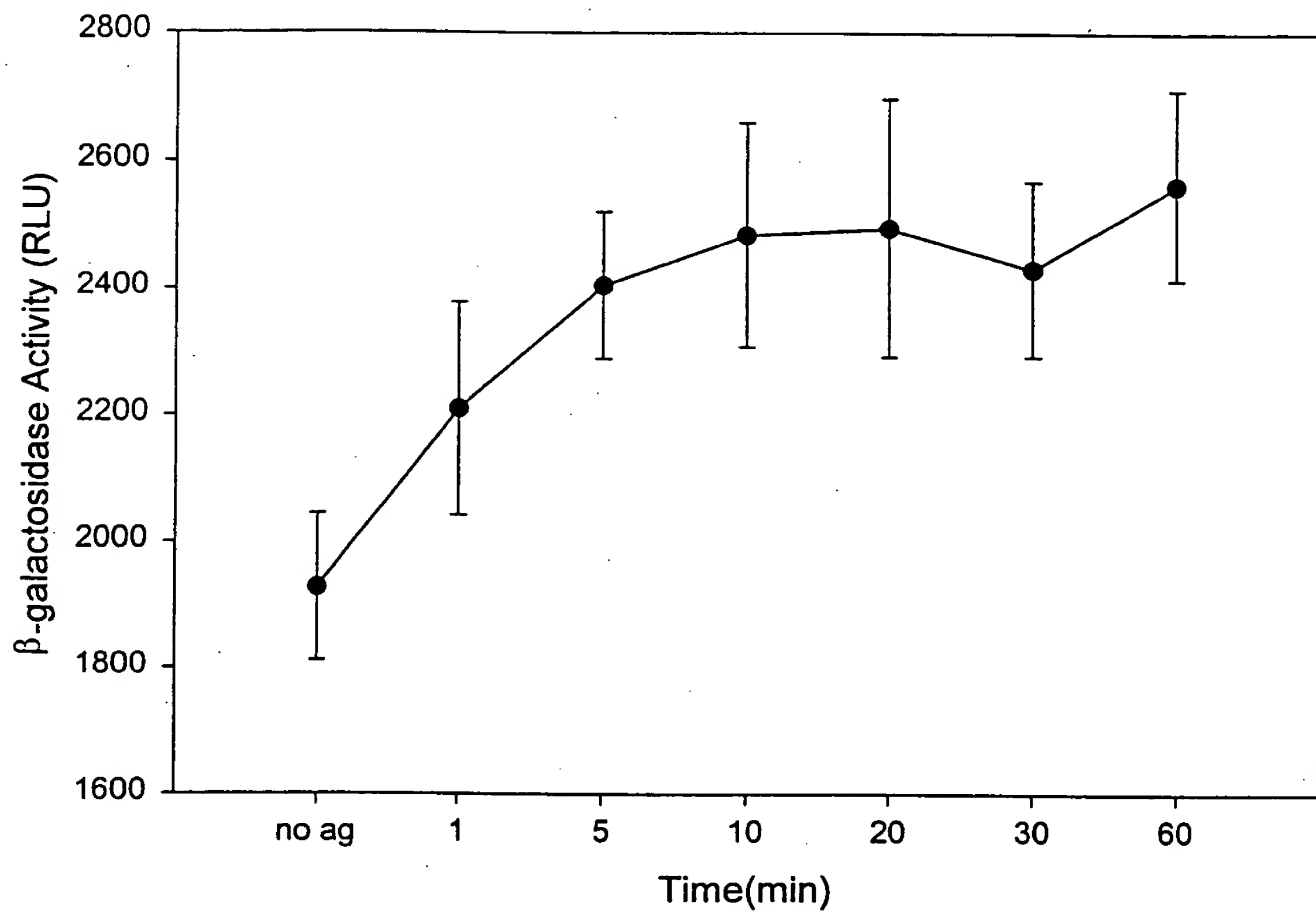


FIGURE 8B

β 2AR- β gal $\Delta\alpha$ and β Arr2- β gal $\Delta\omega$ Interaction in CHW Clone
in Response to Isoproterenol Treatment (10uM)

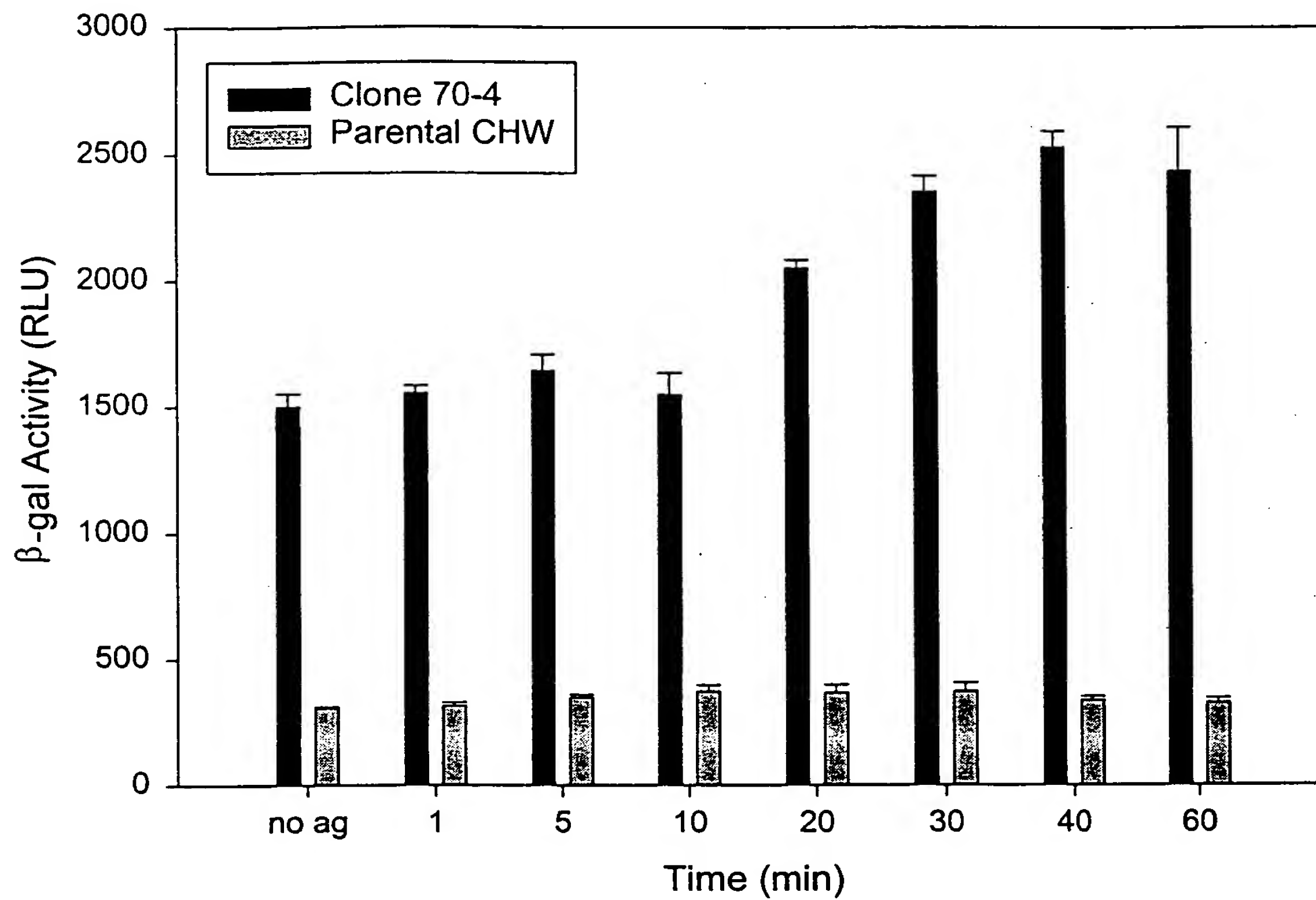


FIGURE 8C

β -galactosidase Complementation as a Measurement for
Adrenergic Receptor Homodimerization in HEK 293 Cells
Coexpressing β 2AR- β gal $\Delta\alpha$ and β 2AR- β gal $\Delta\omega$.

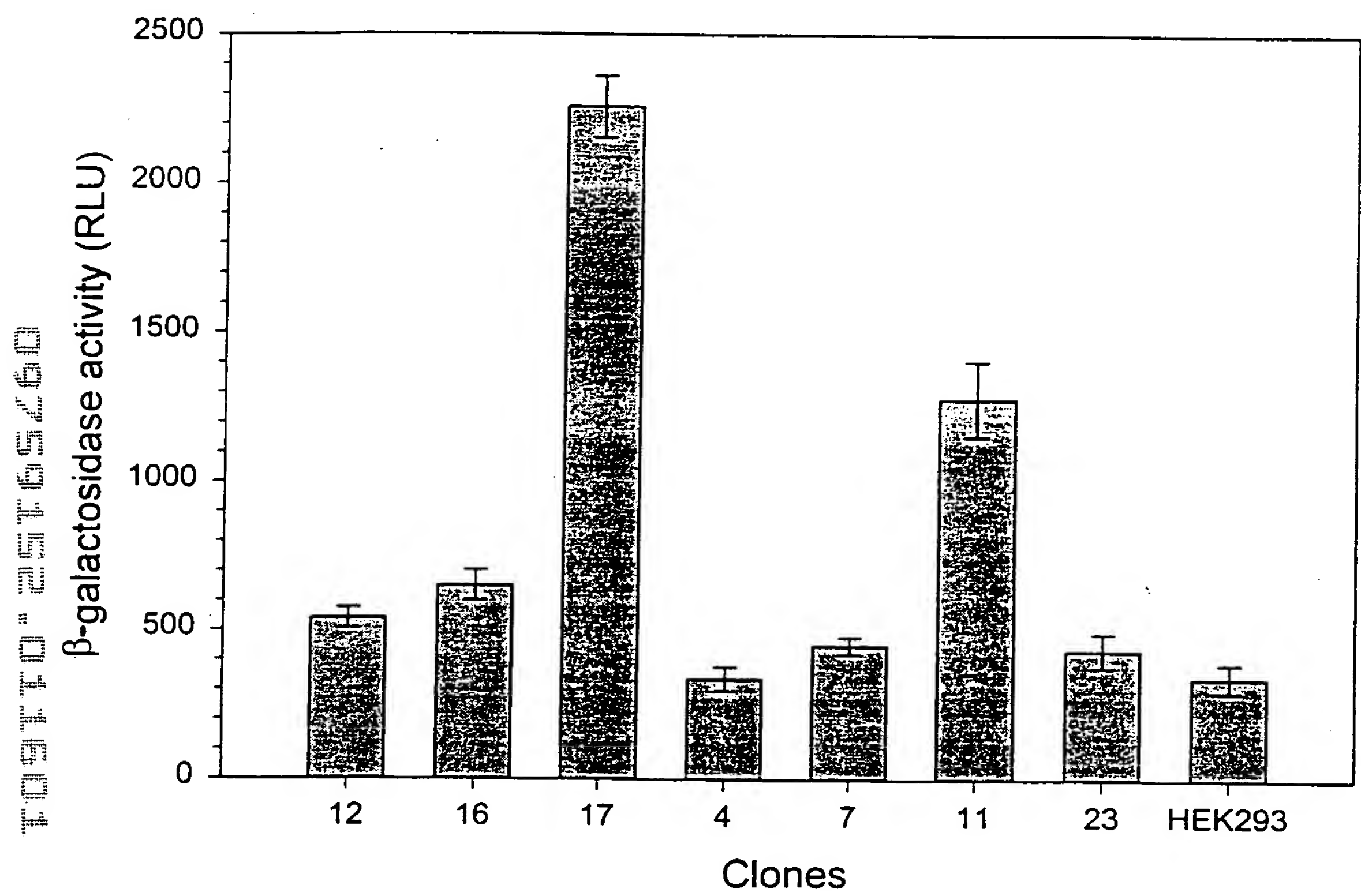


FIGURE 9A

Agonist Stimulated cAMP Response in HEK 293 Cells
Coexpressing $\beta 2AR$ - $\beta gal\Delta\alpha$ and $\beta 2AR$ - $\beta gal\Delta\omega$

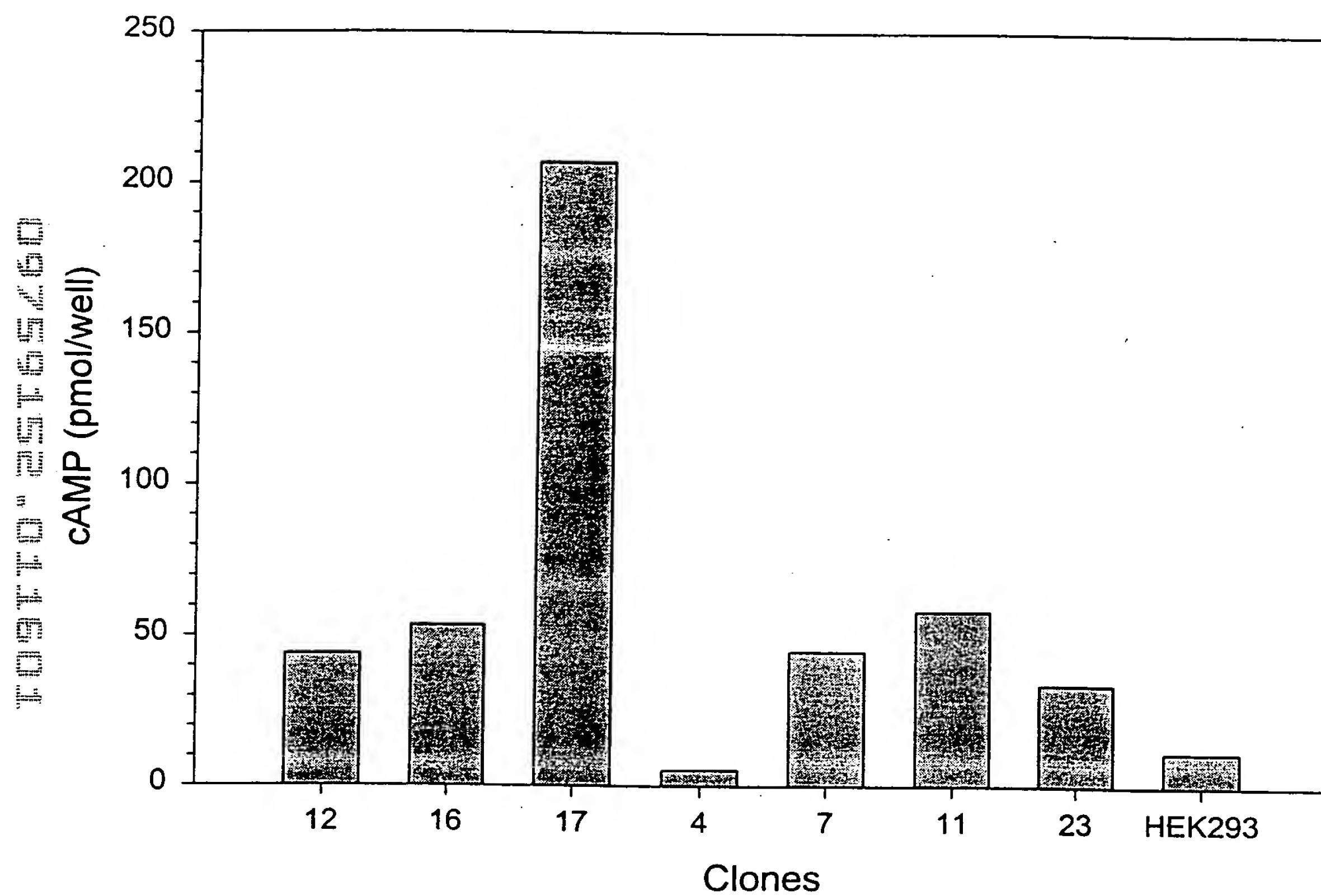


FIGURE 9B

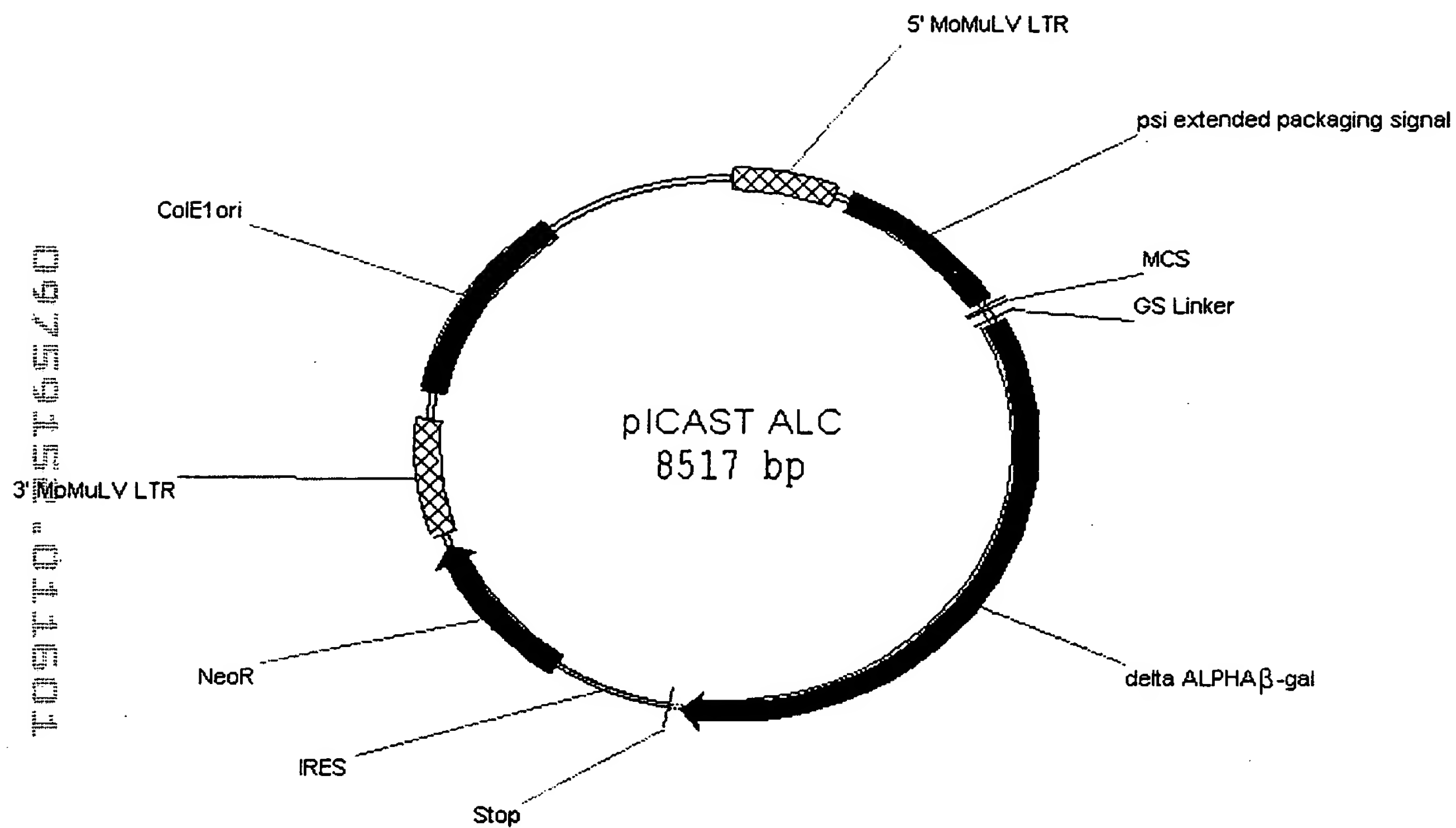


Figure 10A

1	CTGCAGCCTG	AATATGGGCC	AAACAGGATA	TCTGTGGTAA	GCAGTTCCTG
	GACGTCGGAC	TTATACCCGG	TTTGTCTTAT	AGACACCATT	CGTCAAGGAC

51	CCCCGGCTCA	GGGCCAAGAA	CAGATGGAAC	AGCTGAATAT	GGGCCAAACA
	GGGGCCGAGT	CCCGGTTCTT	GTCTACCTTG	TCGACTTATA	CCCGGTTTGT

101	GGATATCTGT	GGTAAGCAGT	TCCTGCCCCG	GCTCAGGGCC	AAGAACAGAT
	CCTATAGACA	CCATTCGTCA	AGGACGGGGC	CGAGTCCCGG	TTCTTGTCTA

151	GGTCCCCAGA	TGCGGTCCAG	CCCTCAGCAG	TTTCTAGAGA	ACCATCAGAT
	CCAGGGGTCT	ACGCCAGGTC	GGGAGTCGTC	AAAGATCTCT	TGGTAGTCTA

201	GTTTCCAGGG	TGCCCCAAGG	ACCTGAAATG	ACCCTGTGCC	TTATTTGAAC
	CAAAGGTCCC	ACGGGGTTCC	TGGACTTTAC	TGGGACACGG	AATAAACTTG

251	TAACCAATCA	GTTGCTTCT	CGCTTCTGTT	CGCGCGCTTC	TGCTCCCCGA
	ATTGGTTAGT	CAAGCGAAGA	GCGAAGACAA	GCGCGCGAAG	ACGAGGGGCT

301	GCTCAATAAA	AGAGCCCACA	ACCCCTCACT	CGGGGCGCCA	GTCCTCCGAT
	CGAGTTATTT	TCTCGGGTGT	TGGGGAGTGA	GCCCCGCGGT	CAGGAGGCTA

351	TGACTGAGTC	GCCCCGGTAC	CCGTGTATCC	AATAAACCCCT	CTTGCAGTTG
	ACTGACTCAG	CGGGCCCATG	GGCACATAGG	TTATTTGGGA	GAACGTCAAC

401	CATCCGACTT	GTGGTCTCGC	TGTTCCCTTG	GAGGGTCTCC	TCTGAGTGAT
	GTAGGCTGAA	CACCAGAGCG	ACAAGGAACC	CTCCCAGAGG	AGACTCACTA

451	TGACTACCCG	TCAGCGGGGG	TCTTTCATTT	GGGGGCTCGT	CCGGGATCGG
	ACTGATGGGC	AGTCGCCCCC	AGAAAGTAAA	CCCCCGAGCA	GGCCCTAGCC

501	GAGACCCCTG	CCCAGGGACC	ACCGACCCAC	CACCGGGAGG	CAAGCTGGCC
	CTCTGGGGAC	GGGTCCCTGG	TGGCTGGGTG	GTGGCCCTCC	GTTTCGACCGG

551	AGCAACTTAT	CTGTGTCTGT	CCGATTGTCT	AGTGTCTATG	ACTGATTTTA
	TCGTTGAATA	GACACAGACA	GGCTAACAGA	TCACAGATAC	TGACTAAAAT

601	TGCGCCTGCG	TCGGTACTAG	TTAGCTAACT	AGCTCTGTAT	CTGGCGGACC
	ACGCGGACGC	AGCCATGATC	AATCGATTGA	TCGAGACATA	GACCGCCTGG

651	CGTGGTGGAA	CTGACGAGTT	CTGAACACCC	GGCCGCAACC	CTGGGAGACG
	GCACCACCTT	GACTGCTCAA	GACTTGTGGG	CCGGCGTTGG	GACCCTCTGC

701	TCCCAGGGAC	TTTGGGGGGC	GTTTTTGTGG	CCCGACCTGA	GGAAGGGAGT
	AGGGTCCCTG	AAACCCCCGG	CAAAAACACC	GGGCTGGACT	CCTTCCCTCA

751	CGATGTGGAA	TCCGACCCCG	TCAGGATATG	TGGTTCTGGT	AGGAGACGAG
	GCTACACCTT	AGGCTGGGGC	AGTCCTATAC	ACCAAGACCA	TCCTCTGCTC

801	AACCTAAAAC	AGTTCCCGCC	TCCGTCTGAA	TTTTTGCTTT	CGGTTTGGAA
	TTGGATTTTG	TCAAGGGCGG	AGGCAGACTT	AAAAACGAAA	GCCAAACCTT

851	CCGAAGCCGC	GCGTCTTGTC	TGCTGCAGCA	TCGTTCTGTG	TTGTCTCTGT
	GGCTTCGGCG	CGCAGAACAG	ACGACGTCGT	AGCAAGACAC	AACAGAGACA

901	CTGACTGTGT	TTCTGTATTT	GTCTGAAAAT	TAGGGCCAGA	CTGTTACCAC
	GACTGACACA	AAGACATAAA	CAGACTTTTA	ATCCCGGTCT	GACAATGGTG

FIGURE 10B

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1001  ACAACCAGTC GGTAGATGTC AAGAAGAGAC GTTGGGTAC CTTCTGCTCT
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1051  GCAGAATGGC CAACCTTTAA CGTCGGATGG CCGCGAGACG GCACCTTTAA
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1101  CCGAGACCTC ATCACCAGG TTAAGATCAA GGTCTTTTCA CCTGGCCCGC
    GGCTCTGGAG TAGTGGGTCC AATTCTAGTT CCAGAAAAGT GGACCGGGCG
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1151  ATGGACACCC AGACCAGGTC CCCTACATCG TGACCTGGGA AGCCTTGGCT
    TACCTGTGGG TCTGGTCCAG GGGATGTAGC ACTGGACCCT TCGGAACCGA
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1201  TTTGACCCCC CTCCTGGGT CAAGCCCTTT GTACACCCTA AGCCTCCGCC
    AAAGTGGGGG GAGGGACCCA GTTCGGGAAA CATGTGGGAT TCGGAGGCGG
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1251  TCCTCTTCCT CCATCCGCCC CGTCTCTCCC CTTGAACCT CTCGTTCGA
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1301  CCCC GCCTCG ATCCTCCCTT TATCCAGCCC TCACTCCTTC TCTAGGCGCC
    GGGGCGGAGC TAGGAGGGAA ATAGGTCGGG AGTGAGGAAG AGATCCGCGG
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    CCGGCGAGAT CGGGTAATTA TGCTGAGTGA TATCCCGCTA AGCTTAGTCC
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1401  CCTTGCGCGC CCGGATCCTT AATTAAGCGC AATTGGGAGG TGGCGGTAGC
    GGAACGCGC GGCCTAGGAA TTAATTCGCG TTAACCTCC ACCGCCATCG
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+2      M G V I T D S L A V V A R T D
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+2      R P S Q Q L R S L N G E W R F A
      ]-----
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      ]-----
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+2      P E A D T V V V P S N W Q M H G Y
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+2 Q G E T Q V A S G T A P F G G E I
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+2 I D E R G G Y A D R V T L R L N V
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+2 P L A S G E V P L D V A P Q G K Q
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+2 L I E L P E L P Q P E S A G Q L W
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+2 L T V R V V Q P N A T A W S E A
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+2 D F C I E L G N K R W Q F N R Q
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+2 S E A T R I D P N A W V E R W K
-----
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+2 A A G H Y Q A E A A L L Q C T A D
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+2 T L A D A V L I T T A H A W Q H Q
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      CCCCTTTTGG AATAAATAGT CGGCCTTTTG GATGGCCTAA CTACCATCAC
-----
+2 G Q M A I T V D V E V A S D T P H
-----
3951 GTCAAATGGC GATTACCGTT GATGTTGAAG TGGCGAGCGA TACACCGCAT
      CAGTTTACCG CTAATGGCAA CTACAAC TTC ACCGCTCGCT ATGTGGCGTA
-----
+2 P A R I G L N C Q L A Q V A E R V
-----
4001 CCGGCGCGGA TTGGCCTGAA CTGCCAGCTG GCGCAGGTAG CAGAGCGGGT
      GGCCGCGCCT AACCGGACTT GACGGTCGAC CGCGTCCATC GTCTCGCCCA
-----
+2 N W L G L G P Q E N Y P D R L T
-----
4051 AAAGTGGCTC GGATTAGGGC CGCAAGAAAA CTATCCCGAC CGCCTTACTG
      TTTGACCGAG CCTAATCCCG GCGTTCTTTT GATAGGGCTG GCGGAATGAC
-----

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+2 A A C F D R W D L P L S D M Y T P
-----
4101 CCGCCTGTTT TGACCGCTGG GATCTGCCAT TGTCAGACAT GTATACCCCG
GGCGGACAAA ACTGGCGACC CTAGACGGTA ACAGTCTGTA CATATGGGGC
-----
+2 Y V F P S E N G L R C G T R E L N
-----
4151 TACGTCTTCC CGAGCGAAAA CGGTCTGCGC TCGGGGACGC GCGAATTGAA
ATGCAGAAGG GCTCGCTTTT GCCAGACGCG ACGCCCTGCG CGCTTAACTT
-----
+2 Y G P H Q W R G D F Q F N I S R
-----
4201 TTATGGCCCA CACCAGTGGC GCGGCGACTT CCAGTTCAAC ATCAGCCGCT
AATACCGGGT GTGGTCACCG CGCCGCTGAA GGTCAAGTTG TAGTCGGCGA
-----
+2 Y S Q Q Q L M E T S H R H L L H A
-----
4251 ACAGTCAACA GCAACTGATG GAAACCAGCC ATCGCCATCT GCTGCACGCG
TGTCAGTTGT CGTTGACTAC CTTTGGTCGG TAGCGGTAGA CGACGTGCGC
-----
+2 E E G T W L N I D G F H M G I G G
-----
4301 GAAGAAGGCA CATGGCTGAA TATCGACGGT TTCCATATGG GGATTGGTGG
CTTCTTCCGT GTACCGACTT ATAGCTGCCA AAGGTATACC CCTAACCACC
-----
+2 D D S W S P S V S A E F Q L S A
-----
4351 CGACGACTCC TGGAGCCCGT CAGTATCGGC GGAATTCCAG CTGAGCGCCG
GCTGCTGAGG ACCTCGGGCA GTCATAGCCG CCTTAAGGTC GACTCGCGGC
-----
+2 G R Y H Y Q L V W C Q K R S D Y K
-----
4401 GTCGCTACCA TTACCAGTTG GTCTGGTGTC AAAAAAGATC TGACTATAAA
CAGCGATGGT AATGGTCAAC CAGACCACAG TTTTCTTAG ACTGATATTT
-----
+2 D E D L D H H H H H H R
----->
4451 GATGAGGACC TCGACCATCA TCATCATCAT CACCGGTAAT AATAGGTAGA
CTACTCCTGG AGCTGGTAGT AGTAGTAGTA GTGGCCATTA TTATCCATCT
-----
4501 TAAGTGACTG ATTAGATGCA TTGATCCCTC GACCAATTCC GGTTATTTTC
ATTCAGTAC TAATCTACGT AACTAGGGAG CTGGTTAAGG CCAATAAAAG
-----
4551 CACCATATTG CCGTCTTTTG GCAATGTGAG GGCCCGGAAA CCTGGCCCTG
GTGGTATAAC GGCAGAAAAC CGTTACACTC CCGGGCCTTT GGACCGGGAC
-----
4601 TCTTCTTGAC GAGCATTCCT AGGGGTCTTT CCCCTCTCGC CAAAGGAATG
AGAAGAACTG CTCGTAAGGA TCCCCAGAAA GGGGAGAGCG GTTTCCTTAC
-----
4651 CAAGGTCTGT TGAATGTCGT GAAGGAAGCA GTTCCTCTGG AAGCTTCTTG
GTTCCAGACA ACTTACAGCA CTTCTTCGT CAAGGAGACC TTCGAAGAAC
-----
4701 AAGACAAACA ACGTCTGTAG CGACCCTTTG CAGGCAGCGG AACCCCCAC
TTCTGTTTGT TGCAGACATC GCTGGGAAAC GTCCGTCGCC TTGGGGGGTG
-----
4751 CTGGCGACAG GTGCCTCTGC GGCCAAAAGC CACGTGTATA AGATACACCT
GACCGCTGTC CACGGAGACG CCGGTTTTCG GTGCACATAT TCTATGTGGA
-----

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4801	GCAAAGGCGG	CACAACCCCA	GTGCCACGTT	GTGAGTTGGA	TAGTTGTGGA
	CGTTTCCGCC	GTGTTGGGGT	CACGGTGCAA	CACTCAACCT	ATCAACACCT

4851	AAGAGTCAAA	TGGCTCTCCT	CAAGCGTATT	CAACAAGGGG	CTGAAGGATG
	TTCTCAGTTT	ACCGAGAGGA	GTTTCGCATAA	GTTGTTCCCC	GACTTCCTAC

4901	CCCAGAAGGT	ACCCCATTTGT	ATGGGATCTG	ATCTGGGGCC	TCGGTGCACA
	GGGTCTTCCA	TGGGGTAACA	TACCCTAGAC	TAGACCCCGG	AGCCACGTGT

4951	TGCTTTACAT	GTGTTTAGTC	GAGGTTAAAA	AACGTCTAGG	CCCCCGAAC
	ACGAAATGTA	CACAAATCAG	CTCCAATTTT	TTGCAGATCC	GGGGGGCTTG

5001	CACGGGGACG	TGGTTTTCTT	TTGAAAAACA	CGATGATAAT	ACCATGATTG
	GTGCCCCTGC	ACCAAAAGGA	AACTTTTTGT	GCTACTATTA	TGGTACTAAC

5051	AACAAGATGG	ATTGCACGCA	GGTTCTCCGG	CCGCTTGGGT	GGAGAGGCTA
	TTGTTCTACC	TAACGTGCGT	CCAAGAGGCC	GGCGAACCCA	CCTCTCCGAT

5101	TTCGGCTATG	ACTGGGCACA	ACAGACAATC	GGCTGCTCTG	ATGCCGCCGT
	AAGCCGATAC	TGACCCGTGT	TGTCTGTTAG	CCGACGAGAC	TACGGCGGCA

5151	GTTCCGGCTG	TCAGCGCAGG	GGCGCCCGGT	TCTTTTTGTC	AAGACCGACC
	CAAGGCCGAC	AGTCGCGTCC	CCGCGGGCCA	AGAAAAACAG	TTCTGGCTGG

5201	TGTCCGGTGC	CCTGAATGAA	CTGCAGGACG	AGGCAGCGCG	GCTATCGTGG
	ACAGGCCACG	GGACTTACTT	GACGTCCTGC	TCCGTCGCGC	CGATAGCACC

5251	CTGGCCACGA	CGGGCGTTCC	TTGCGCAGCT	GTGCTCGACG	TTGTCACTGA
	GACCGGTGCT	GCCCGCAAGG	AACGCGTCGA	CACGAGCTGC	AACAGTGAAT

5301	AGCGGGAAGG	GAATGGCTGC	TATTGGGCGA	AGTGCCGGGG	CAGGATCTCC
	TCGCCCTTCC	CTGACCGACG	ATAACCCGCT	TCACGGCCCC	GTCCTAGAGG

5351	TGTCATCTCA	CCTTGCTCCT	GCCGAGAAAG	TATCCATCAT	GGCTGATGCA
	ACAGTAGAGT	GGAACGAGGA	CGGCTCTTTC	ATAGGTAGTA	CCGACTACGT

5401	ATGCGGCGGC	TGCATACGCT	TGATCCGGCT	ACCTGCCCCAT	TCGACCACCA
	TACGCCGCCG	ACGTATGCGA	ACTAGGCCGA	TGGACGGGTA	AGCTGGTGGT

5451	AGCGAAACAT	CGCATCGAGC	GAGCACGTAC	TCGGATGGAA	GCCGGTCTTG
	TCGCTTTGTA	GCGTAGCTCG	CTCGTGCATG	AGCCTACCTT	CGGCCAGAAC

5501	TCGATCAGGA	TGATCTGGAC	GAAGAGCATC	AGGGGCTCGC	GCCAGCCGAA
	AGCTAGTCCT	ACTAGACCTG	CTTCTCGTAG	TCCCCGAGCG	CGGTCTGGCTT

5551	CTGTTTCGCCA	GGCTCAAGGC	GCGCATGCCC	GACGGCGAGG	ATCTCGTCGT
	GACAAGCGGT	CCGAGTTCCG	CGCGTACGGG	CTGCCGCTCC	TAGAGCAGCA

5601	GACCCATGGC	GATGCCTGCT	TGCCGAATAT	CATGGTGGAA	AATGGCCGCT
	CTGGGTACCG	CTACGGACGA	ACGGCTTATA	GTACCACCTT	TTACCGGCGA

5651	TTTCTGGATT	CATCGACTGT	GGCCGGCTGG	GTGTGGCGGA	CCGCTATCAG
	AAAGACCTAA	GTAGCTGACA	CCGGCCGACC	CACACCGCCT	GGCGATAGTC

5701	GACATAGCGT	TGGCTACCCG	TGATATTGCT	GAAGAGCTTG	GCGGCGAATG
	CTGTATCGCA	ACCGATGGGC	ACTATAACGA	CTTCTCGAAC	CGCCGCTTAC

5751 GGCTGACCGC TTCCTCGTGC TTTACGGTAT CGCCGCTCCC GATTTCGCAGC
CCGACTGGCG AAGGAGCACG AAATGCCATA GCGGCGAGGG CTAAGCGTCG

5801 GCATCGCCTT CTATCGCCTT CTTGACGAGT TCTTCTGAGC GGGACTCTGG
CGTAGCGGAA GATAGCGGAA GAACTGCTCA AGAAGACTCG CCCTGAGACC

5851 GGTTCGCATC GATAAAATAA AAGATTTTAT TTAGTCTCCA GAAAAAGGGG
CCAAGCGTAG CTATTTTATT TTCTAAAATA AATCAGAGGT CTTTTTCCCC

5901 GGAATGAAAG ACCCCACCTG TAGGTTTGGC AAGCTAGCTT AAGTAACGCC
CCTTACTTTC TGGGGTGGAC ATCCAAACCG TTCGATCGAA TTCATTGCGG

5951 ATTTTGCAAG GCATGGAAAA ATACATAACT GAGAATAGAG AAGTTCAGAT
TAAAACGTTT CGTACCTTTT TATGTATTGA CTCTTATCTC TTCAAGTCTA

6001 CAAGGTCAGG AACAGATGGA ACAGCTGAAT ATGGGCCAAA CAGGATATCT
GTTCCAGTCC TTGTCTACCT TGTCGACTTA TACCCGTTT GTCCTATAGA

6051 GTGGTAAGCA GTTCCTGCCC CGGCTCAGGG CCAAGAACAG ATGGAACAGC
CACCATTTCG CAAGGACGGG GCCGAGTCCC GGTTCTTGTC TACCTTGTCG

6101 TGAATATGGG CCAAACAGGA TATCTGTGGT AAGCAGTTCC TGCCCCGGCT
ACTTATACCC GGTTTGTCTT ATAGACACCA TTCGTCAAGG ACGGGGCCGA

6151 CAGGGCCAAG AACAGATGGT CCCCAGATGC GGTCCAGCCC TCAGCAGTTT
GTCCCGGTTT TTGTCTACCA GGGGTCTACG CCAGGTCGGG AGTCGTCAAA

6201 CTAGAGAACC ATCAGATGTT TCCAGGGTGC CCCAAGGACC TGAAATGACC
GATCTCTTGG TAGTCTACAA AGGTCCCACG GGGTTCCTGG ACTTTACTGG

6251 CTGTGCCTTA TTTGAACTAA CCAATCAGTT CGCTTCTCGC TTCTGTTTCG
GACACGGAAT AACTTTGATT GGTTAGTCAA GCGAAGAGCG AAGACAAGCG

6301 GCGCTTCTGC TCCCCGAGCT CAATAAAAGA GCCACAACC CCTCACTCGG
CGCGAAGACG AGGGGCTCGA GTTATTTTCT CGGGTGTTGG GGAGTGAGCC

6351 GGCGCCAGTC CTCCGATTGA CTGAGTCGCC CGGGTACCCG TGTATCCAAT
CCGCGGTCAG GAGGCTAACT GACTCAGCGG GCCCATGGGC ACATAGGTTA

6401 AAACCCTCTT GCAGTTGCAT CCGACTTGTG GTCTCGCTGT TCCTTGGGAG
TTTGGGAGAA CGTCAACGTA GGCTGAACAC CAGAGCGACA AGGAACCCTC

6451 GGTCTCCTCT GAGTGATTGA CTACCCGTCA GCGGGGGTCT TTCATTCTATG
CCAGAGGAGA CTCACTAACT GATGGGCAGT CGCCCCCAGA AAGTAAGTAC

6501 CAGCATGTAT CAAAATTAAT TTGGTTTTTT TTCTTAAGTA TTTACATTAA
GTCGTACATA GTTTTAATTA AACCAAAAAA AAGAATTCAT AAATGTAATT

6551 ATGGCCATAG TTGCATTAAT GAATCGGCCA ACGCGCGGGG AGAGGCGGTT
TACCGGTATC AACGTAATTA CTTAGCCGGT TGCGCGCCCC TCTCCGCCAA

6601 TGCGTATTGG CGCTCTTCCG CTTCTCTCGT CACTGACTCG CTGCGCTCGG
ACGCATAACC GCGAGAAGGC GAAGGAGCGA GTGACTGAGC GACGCGAGCC

6651 TCGTTCGGCT GCGGCGAGCG GTATCAGCTC ACTCAAAGGC GGTAATACGG
AGCAAGCCGA CGCCGCTCGC CATAGTCGAG TGAGTTTCCG CCATTATGCC

10970-25250

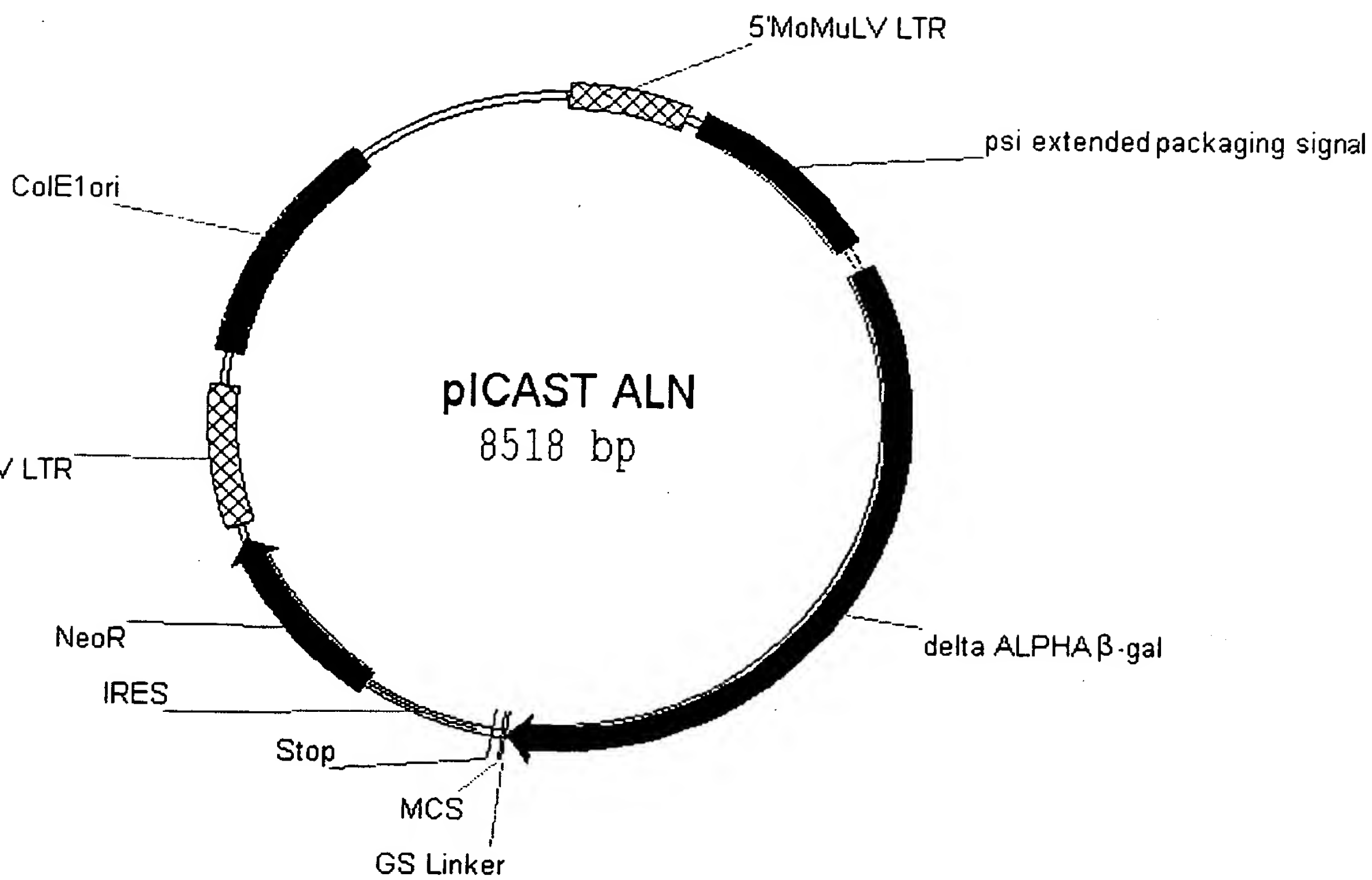


Figure 11A

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1  CTGCAGCCTG AATATGGGCC AAACAGGATA TCTGTGGTAA GCAGTTCCTG
   GACGTCGGAC TTATACCCGG TTTGTCCTAT AGACACCATT CGTCAAGGAC
-----
51  CCCC GGCTCA GGGCCAAGAA CAGATGGAAC AGCTGAATAT GGGCCAAACA
   GGGGCCGAGT CCCGGTTCTT GTCTACCTTG TCGACTTATA CCCGGTTTGT
-----
101 GGATATCTGT GGTAAGCAGT TCCTGCCCCG GCTCAGGGCC AAGAACAGAT
   CCTATAGACA CCATTCGTCA AGGACGGGGC CGAGTCCCGG TTCTTGTCTA
-----
151 GGTCCCCAGA TGCGGTCCAG CCCTCAGCAG TTTCTAGAGA ACCATCAGAT
   CCAGGGGTCT ACGCCAGGTC GGGAGTCGTC AAAGATCTCT TGGTAGTCTA
-----
201 GTTTCAGGG TGCCCCAAGG ACCTGAAATG ACCCTGTGCC TTATTTGAAC
   CAAAGGTCCC ACGGGGTTCC TGGACTTTAC TGGGACACGG AATAAACTTG
-----
251 TAACCAATCA GTTCGCTTCT CGCTTCTGTT CGCGCGCTTC TGCTCCCCGA
   ATTGGTTAGT CAAGCGAAGA GCGAAGACAA GCGCGCGAAG ACGAGGGGCT
-----
301 GCTCAATAAA AGAGCCCACA ACCCCTCACT CGGGGCGCCA GTCCTCCGAT
   CGAGTTATTT TCTCGGGTGT TGGGGAGTGA GCCCCGCGGT CAGGAGGCTA
-----
351 TGA CTGAGTC GCCCGGGTAC CCGTGTATCC AATAAACCCCT CTTGCAGTTG
   ACTGACTCAG CGGGCCCATG GGCACATAGG TTATTTGGGA GAACGTCAAC
-----
401 CATCCGACTT GTGGTCTCGC TGTTCCTTGG GAGGGTCTCC TCTGAGTGAT
   GTAGGCTGAA CACCAGAGCG ACAAGGAACC CTCCCAGAGG AGACTCACTA
-----
451 TGA CTACCCG TCAGCGGGGG TCTTTCATTT GGGGGCTCGT CCGGGATCGG
   ACTGATGGGC AGTCGCCCCC AGAAAGTAAA CCCCCGAGCA GGCCCTAGCC
-----
501 GAGACCCCTG CCCAGGGACC ACCGACCCAC CACCGGGAGG CAAGCTGGCC
   CTCTGGGGAC GGGTCCCTGG TGGCTGGGTG GTGGCCCTCC GTTCGACCGG
-----
551 AGCAACTTAT CTGTGTCTGT CCGATTGTCT AGTGTCTATG ACTGATTTTA
   TCGTTGAATA GACACAGACA GGCTAACAGA TCACAGATAC TGACTAAAAT
-----
601 TGCGCCTGCG TCGGTACTAG TTAGCTAACT AGCTCTGTAT CTGGCGGACC
   ACGCGGACGC AGCCATGATC AATCGATTGA TCGAGACATA GACCGCCTGG
-----
651 CGTGGTGGAA CTGACGAGTT CTGAACACCC GGCCGCAACC CTGGGAGACG
   GCACCACCTT GACTGCTCAA GACTTGTGGG CCGGCGTTGG GACCCTCTGC
-----
701 TCCCAGGGAC TTTGGGGGCC GTTTTTGTGG CCCGACCTGA GGAAGGGAGT
   AGGGTCCCTG AAACCCCGG CAAAACACC GGGCTGGACT CCTTCCCTCA
-----
751 CGATGTGGAA TCCGACCCCG TCAGGATATG TGGTTCTGGT AGGAGACGAG
   GCTACACCTT AGGCTGGGGC AGTCCTATAC ACCAAGACCA TCCTCTGCTC
-----
801 AACCTAAAAC AGTTCCCGCC TCCGTCTGAA TTTTGTCTTT CGGTTTGGAA
   TTGGATTTTG TCAAGGGCGG AGGCAGACTT AAAAACGAAA GCCAAACCTT
-----
851 CCGAAGCCGC GCGTCTTGTC TGCTGCAGCA TCGTTCTGTG TTGTCTCTGT
   GGCTTCGGCG CGCAGAACAG ACGACGTCGT AGCAAGACAC AACAGAGACA
-----
901 CTGACTGTGT TTCTGTATTT GTCTGAAAAT TAGGGCCAGA CTGTTACCAC
   GACTGACACA AAGACATAAA CAGACTTTTA ATCCCGGTCT GACAATGGTG
-----

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FIGURE 11B

951	TCCCTTAAGT	TTGACCTTAG	GTAACCTGGAA	AGATGTCGAG	CGGCTCGCTC
	AGGGAATTCA	AACTGGAATC	CATTGACCTT	TCTACAGCTC	GCCGAGCGAG

1001	ACAACCAGTC	GGTAGATGTC	AAGAAGAGAC	GTTGGGTTAC	CTTCTGCTCT
	TGTTGGTCAG	CCATCTACAG	TTCTTCTCTG	CAACCCAATG	GAAGACGAGA

1051	GCAGAATGGC	CAACCTTTAA	CGTCGGATGG	CCGCGAGACG	GCACCTTTAA
	CGTCTTACCG	GTTGGAAATT	GCAGCCTACC	GGCGCTCTGC	CGTGGAAATT

1101	CCGAGACCTC	ATCACCCAGG	TTAAGATCAA	GGTCTTTTCA	CCTGGCCCGC
	GGCTCTGGAG	TAGTGGGTCC	AATTCTAGTT	CCAGAAAAGT	GGACCGGGCG

1151	ATGGACACCC	AGACCAGGTC	CCCTACATCG	TGACCTGGGA	AGCCTTGGCT
	TACCTGTGGG	TCTGGTCCAG	GGGATGTAGC	ACTGGACCCT	TCGGAACCGA

1201	TTTGACCCCC	CTCCCTGGGT	CAAGCCCTTT	GTACACCCTA	AGCCTCCGCC
	AAACTGGGGG	GAGGGACCCA	GTTCCGGGAA	CATGTGGGAT	TCGGAGGCGG

1251	TCCTCTTCCT	CCATCCGCCC	CGTCTCTCCC	CCTTGAACCT	CCTCGTTCGA
	AGGAGAAGGA	GGTAGGCGGG	GCAGAGAGGG	GGAACCTGGA	GGAGCAAGCT

1301	CCCCGCCTCG	ATCCTCCCTT	TATCCAGCCC	TCACTCCTTC	TCTAGGCGCC
	GGGGCGGAGC	TAGGAGGGAA	ATAGGTCGGG	AGTGAGGAAG	AGATCCGCGG

1351	GGCCGCTCTA	GCCCATTAAT	ACGACTCACT	ATAGGGCGAT	TCGAACACCA
	CCGGCGAGAT	CGGGTAATTA	TGCTGAGTGA	TATCCCGCTA	AGCTTGTGGT

1401	TGCACCATCA	TCATCATCAC	GTCGACTATA	AAGATGAGGA	CCTCGAGATG
	ACGTGGTAGT	AGTAGTAGTG	CAGCTGATAT	TTCTACTCCT	GGAGCTCTAC

1451	GGCGTGATTA	CGGATTCACT	GGCCGTCGTG	GCCCGCACCG	ATCGCCCTTC
	CCGCACTAAT	GCCTAAGTGA	CCGGCAGCAC	CGGGCGTGGC	TAGCGGGAAG

1501	CCAACAGTTA	CGCAGCCTGA	ATGGCGAATG	GCGCTTTGCC	TGGTTTCCGG
	GGTTGTCAAT	GCGTCGGACT	TACCGCTTAC	CGCGAAACGG	ACCAAAGGCC

1551	CACCAGAAGC	GGTGCCGGAA	AGCTGGCTGG	AGTGCGATCT	TCCTGAGGCC
	GTGGTCTTCG	CCACGGCCTT	TCGACCGACC	TCACGCTAGA	AGGACTCCGG

1601	GATACTGTCG	TCGTCCCCTC	AAACTGGCAG	ATGCACGGTT	ACGATGCGCC
	CTATGACAGC	AGCAGGGGAG	TTTGACCGTC	TACGTGCCAA	TGCTACGCGG

1651	CATCTACACC	AACGTGACCT	ATCCCATTAC	GGTCAATCCG	CCGTTTGTTC
	GTAGATGTGG	TTGCACTGGA	TAGGGTAATG	CCAGTTAGGC	GGCAAACAAG

1701	CCACGGAGAA	TCCGACGGGT	TGTTACTCGC	TCACATTTAA	TGTTGATGAA
	GGTGCTCTTT	AGGCTGCCCA	ACAATGAGCG	AGTGTAATTT	ACAACACTTT

1751	AGCTGGCTAC	AGGAAGGCCA	GACGCGAATT	ATTTTGTGATG	GCGTTAACTC
	TCGACCGATG	TCCTTCCGGT	CTGCGCTTAA	TAAAACTAC	CGCAATTGAG

1801	GGCGTTTCAT	CTGTGGTGCA	ACGGGCGCTG	GGTCGGTTAC	GGCCAGGACA
	CCGCAAAGTA	GACACCACGT	TGCCCCGCAC	CCAGCCAATG	CCGGTCCTGT

1851	GTCGTTTGCC	GTCTGAATTT	GACCTGAGCG	CATTTTACG	CGCCGGAGAA
	CAGCAAACGG	CAGACTTAAA	CTGGACTCGC	GTAAAAATGC	GCGGCCTCTT

1901	AACCGCCTCG	CGGTGATGGT	GCTGCGCTGG	AGTGACGGCA	GTTATCTGGA
	TTGGCGGAGC	GCCACTACCA	CGACGCGACC	TCCTGCCGT	CAATAGACCT

1951	AGATCAGGAT	ATGTGGCGGA	TGAGCGGCAT	TTTCCGTGAC	GTCTCGTTGC
	TCTAGTCCTA	TACACCGCCT	ACTCGCCGTA	AAAGGCACTG	CAGAGCAACG

2001	TGCATAAACC	GACTACACAA	ATCAGCGATT	TCCATGTTGC	CACTCGCTTT
	ACGTATTTGG	CTGATGTGTT	TAGTCGCTAA	AGGTACAACG	GTGAGCGAAA

2051	AATGATGATT	TCAGCCGCGC	TGTACTGGAG	GCTGAAGTTC	AGATGTGCGG
	TTACTACTAA	AGTCGGCGCG	ACATGACCTC	CGACTTCAAG	TCTACACGCC

2101	CGAGTTGCGT	GACTACCTAC	GGGTAACAGT	TTCTTTATGG	CAGGGTGAAA
	GCTCAACGCA	CTGATGGATG	CCCATTTGTC	AAGAAATACC	GTCCCACTTT

2151	CGCAGGTCGC	CAGCGGCACC	GCGCCTTTTC	GCGGTGAAAT	TATCGATGAG
	GCGTCCAGCG	GTCGCCGTGG	CGCGGAAAGC	CGCCACTTTA	ATAGCTACTC

2201	CGTGGTGGTT	ATGCCGATCG	CGTCACACTA	CGTCTGAACG	TCGAAAACCC
	GCACCACCAA	TACGGCTAGC	GCAGTGTGAT	GCAGACTTGC	AGCTTTTGGG

2251	GAAACTGTGG	AGCGCCGAAA	TCCCGAATCT	CTATCGTGCG	GTGGTTGAAC
	CTTTGACACC	TCGCGGCTTT	AGGGCTTAGA	GATAGCACGC	CACCAACTTG

2301	TGCACACCGC	CGACGGCACG	CTGATTGAAG	CAGAAGCCTG	CGATGTCGGT
	ACGTGTGGCG	GCTGCCGTGC	GACTAACTTC	GTCTTCGGAC	GCTACAGCCA

2351	TTCCGCGAGG	TGCGGATTGA	AAATGGTCTG	CTGCTGCTGA	ACGGCAAGCC
	AAGGCGCTCC	ACGCCTAACT	TTTACCAGAC	GACGACGACT	TGCCGTTCCG

2401	GTTGCTGATT	CGAGGCGTTA	ACCGTCACGA	GCATCATCCT	CTGCATGGTC
	CAACGACTAA	GCTCCGCAAT	TGGCAGTGCT	CGTAGTAGGA	GACGTACCAG

2451	AGGTCATGGA	TGAGCAGACG	ATGGTGCAGG	ATATCCTGCT	GATGAAGCAG
	TCCAGTACCT	ACTCGTCTGC	TACCACGTCC	TATAGGACGA	CTACTTCGTC

2501	AACAACCTTTA	ACGCCGTGCG	CTGTTTCGCAT	TATCCGAACC	ATCCGCTGTG
	TTGTTGAAAT	TGCGGCACGC	GACAAGCGTA	ATAGGCTTGG	TAGGCGACAC

2551	GTACACGCTG	TGCGACCGCT	ACGGCCTGTA	TGTGGTGGAT	GAAGCCAATA
	CATGTGCGAC	ACGCTGGCGA	TGCCGGACAT	ACACCACCTA	CTTCGGTTAT

2601	TTGAAACCCA	CGGCATGGTG	CCAATGAATC	GTCTGACCGA	TGATCCGCGC
	AACTTTGGGT	GCCGTACCAC	GGTTACTTAG	CAGACTGGCT	ACTAGGCGCG

2651	TGGCTACCGG	CGATGAGCGA	ACGCGTAACG	CGAATGGTGC	AGCGCGATCG
	ACCGATGGCC	GCTACTCGCT	TGCGCATTGC	GCTTACCACG	TCGCGCTAGC

2701	TAATCACCCG	AGTGTGATCA	TCTGGTCGCT	GGGGAATGAA	TCAGGCCACG
	ATTAGTGGGC	TCACACTAGT	AGACCAGCGA	CCCCTTACTT	AGTCCGGTGC

2751	GCGCTAATCA	CGACGCGCTG	TATCGCTGGA	TCAAATCTGT	CGATCCTTCC
	CGCGATTAGT	GCTGCGCGAC	ATAGCGACCT	AGTTTAGACA	GCTAGGAAGG

2801	CGCCCGGTGC	AGTATGAAGG	CGGCGGAGCC	GACACCACGG	CCACCGATAT
	GCGGGCCACG	TCATACTTCC	GCCGCCTCGG	CTGTGGTGCC	GGTGGCTATA

2851	TATTTGCCCCG	ATGTACGCGC	GCGTGGATGA	AGACCAGCCC	TTCCCGGCTG
	ATAAACGGGC	TACATGCGCG	CGCACCTACT	TCTGGTCGGG	AAGGGCCGAC

2901	TGCCGAAATG	GTCCATCAAA	AAATGGCTTT	CGCTACCTGG	AGAGACGCGC
	ACGGCTTTAC	CAGGTAGTTT	TTTACCGAAA	GCGATGGACC	TCTCTGCGCG

2951	CCGCTGATCC	TTTGCGAATA	CGCCCACGCG	ATGGGTAACA	GTCTTGGCGG
	GGCGACTAGG	AAACGCTTAT	GCGGGTGCGC	TACCCATTGT	CAGAACCGCC

3001	TTTCGCTAAA	TACTGGCAGG	CGTTTCGTCA	GTATCCCCGT	TTACAGGGCG
	AAAGCGATTT	ATGACCGTCC	GCAAAGCAGT	CATAGGGGCA	AATGTCCCGC

3051	GCTTCGTCTG	GGACTGGGTG	GATCAGTCGC	TGATTAAATA	TGATGAAAAC
	CGAAGCAGAC	CCTGACCCAC	CTAGTCAGCG	ACTAATTTAT	ACTACTTTTG

3101	GGCAACCCGT	GGTCGGCTTA	CGGCGGTGAT	TTTGGCGATA	CGCCGAACGA
	CCGTTGGGCA	CCAGCCGAAT	GCCGCCACTA	AAACCGCTAT	GCGGCTTGCT

3151	TCGCCAGTTC	TGTATGAACG	GTCTGGTCTT	TGCCGACCGC	ACGCCGCATC
	AGCGGTCAAG	ACATACTTGC	CAGACCAGAA	ACGGCTGGCG	TGCGGCGTAG

3201	CAGCGCTGAC	GGAAGCAAAA	CACCAGCAGC	AGTTTTTCCA	GTTCCGTTTA
	GTCGCGACTG	CCTTCGTTTT	GTGGTCGTGC	TCAAAAAGGT	CAAGGCAAAT

3251	TCCGGGCAAA	CCATCGAAGT	GACCAGCGAA	TACCTGTTCC	GTCATAGCGA
	AGGCCCGTTT	GGTAGCTTCA	CTGGTCGCTT	ATGGACAAGG	CAGTATCGCT

3301	TAACGAGCTC	CTGCACTGGA	TGGTGGCGCT	GGATGGTAAG	CCGCTGGCAA
	ATTGCTCGAG	GACGTGACCT	ACCACCGCGA	CCTACCATTG	GGCGACCGTT

3351	GCGGTGAAGT	GCCTCTGGAT	GTCGCTCCAC	AAGGTAAACA	GTTGATTGAA
	CGCCACTTCA	CGGAGACCTA	CAGCGAGGTG	TTCCATTTGT	CAACTAACTT

3401	CTGCCTGAAC	TACCGCAGCC	GGAGAGCGCC	GGGCAACTCT	GGCTCACAGT
	GACGGACTTG	ATGGCGTCGG	CCTCTCGCGG	CCC GTTGAGA	CCGAGTGTC

3451	ACGCGTAGTG	CAACCGAACG	CGACCGCATG	GTCAGAAGCC	GGGCACATCA
	TGCGCATCAC	GTTGGCTTGC	GCTGGCGTAC	CAGTCTTCGG	CCCGTGTAGT

3501	GCGCCTGGCA	GCAGTGGCGT	CTGGCGGAAA	ACCTCAGTGT	GACGCTCCCC
	CGCGGACCGT	CGTCACCGCA	GACCGCCTTT	TGGAGTCACA	CTGCGAGGGG

3551	GCCGCGTCCC	ACGCCATCCC	GCATCTGACC	ACCAGCGAAA	TGGATTTTTG
	CGGCGCAGGG	TGCGGTAGGG	CGTAGACTGG	TGGTCGCTTT	ACCTAAAAAC

3601	CATCGAGCTG	GGTAATAAGC	GTTGGCAATT	TAACCGCCAG	TCAGGCTTTC
	GTAGCTCGAC	CCATTATTG	CAACCGTTAA	ATTGGCGGTC	AGTCCGAAAG

3651	TTTCACAGAT	GTGGATTGGC	GATAAAAAAC	AACTGCTGAC	GCCGCTGCGC
	AAAGTGCTA	CACCTAACCG	CTATTTTTTG	TTGACGACTG	CGGCGACGCG

3701	GATCAGTTCA	CCCGTGCACC	GCTGGATAAC	GACATTGGCG	TAAGTGAAGC
	CTAGTCAAGT	GGGCACGTGG	CGACCTATTG	CTGTAACCGC	ATTCATTTCG

3751	GACCCGCATT	GACCCTAACG	CCTGGGTCGA	ACGCTGGAAG	GCGGCGGGCC
	CTGGGCGTAA	CTGGGATTGC	GGACCCAGCT	TGCGACCTTC	CGCCGCCCGG

3801 ATTACCAGGC CGAAGCAGCG TTGTTGCAGT GCACGGCAGA TACACTTGCT
TAATGGTCCG GCTTCGTCGC AACACGTCA CGTGCCGTCT ATGTGAACGA

3851 GATGCGGTGC TGATTACGAC CGCTCACGCG TGGCAGCATC AGGGGAAAAC
CTACGCCACG ACTAATGCTG GCGAGTGCGC ACCGTCGTAG TCCCCTTTTG

3901 CTTATTTATC AGCCGGAAAA CCTACCGGAT TGATGGTAGT GGTCAAATGG
GAATAAATAG TCGGCCTTTT GGATGGCCTA ACTACCATCA CCAGTTTACC

3951 CGATTACCGT TGATGTTGAA GTGGCGAGCG ATACACCGCA TCCGGCGCGG
GCTAATGGCA ACTACAACCT CACCGCTCGC TATGTGGCGT AGGCCGCGCC

4001 ATTGGCCTGA ACTGCCAGCT GGCGCAGGTA GCAGAGCGGG TAAACTGGCT
TAACCGGACT TGACGGTCGA CCGCGTCCAT CGTCTCGCCC ATTTGACCGA

4051 CGGATTAGGG CCGCAAGAAA ACTATCCCGA CCGCCTTACT GCCGCCTGTT
GCCTAATCCC GCGTCTCTTT TGATAGGGCT GCGGGAATGA CGGCGGACAA

4101 TTGACCGCTG GGATCTGCCA TTGTCAGACA TGTATACCCC GTACGTCTTC
AACTGGCGAC CCTAGACGGT AACAGTCTGT ACATATGGGG CATGCAGAAG

4151 CCGAGCGAAA ACGGTCTGCG CTGCGGGACG CGCGAATTGA ATTATGGCCC
GGCTCGCTTT TGCCAGACGC GACGCCCTGC GCGCTTAACT TAATACCGGG

4201 ACACCAGTGG CGCGGCGACT TCCAGTTCAA CATCAGCCGC TACAGTCAAC
TGTGGTCACC GCGCCGCTGA AGGTCAAGTT GTAGTCGGCG ATGTCAGTTG

4251 AGCAACTGAT GGAAACCAGC CATCGCCATC TGCTGCACGC GGAAGAAGGC
TCGTTGACTA CCTTTGGTCG GTAGCGGTAG ACGACGTGCG CCTTCTTCCG

4301 ACATGGCTGA ATATCGACGG TTTCCATATG GGGATTGGTG GCGACGACTC
TGTACCGACT TATAGCTGCC AAAGGTATAC CCCTAACCAC CGCTGCTGAG

4351 CTGGAGCCCG TCAGTATCGG CGGAATTCCA GCTGAGCGCC GGTCGCTACC
GACCTCGGGC AGTCATAGCC GCCTTAAGGT CGACTCGCGG CCAGCGATGG

4401 ATTACCAGTT GGTCTGGTGT CAAAAAGAT CTGGAGGTGG TGGCAGCAGG
TAATGGTCAA CCAGACCACA GTTTTTTCTA GACCTCCACC ACCGTCGTCC

4451 CCTTGGCGCG CCGGATCCTT AATTAACAAT TGACCGGTAA TAATAGGTAG
GGAACCGCGC GGCCTAGGAA TTAATTGTTA ACTGGCCATT ATTATCCATC

4501 ATAAGTGACT GATTAGATGC ATTGATCCCT CGACCAATTC CGGTTATTTT
TATTCATGA CTAATCTACG TAACTAGGGA GCTGGTTAAG GCCAATAAAA

4551 CCACCATATT GCCGTCTTTT GGCAATGTGA GGGCCCGGAA ACCTGGCCCT
GGTGGTATAA CGGCAGAAAA CCGTTACACT CCCGGGCCTT TGGACCGGGA

4601 GTCTTCTTGA CGAGCATTCC TAGGGGTCTT TCCCCTCTCG CCAAAGGAAT
CAGAAGAACT GCTCGTAAGG ATCCCCAGAA AGGGGAGAGC GGTTCCTTA

4651 GCAAGGTCTG TTGAATGTCG TGAAGGAAGC AGTTCCTCTG GAAGCTTCTT
CGTTCCAGAC AACTTACAGC ACTTCCTTCG TCAAGGAGAC CTTCGAAGAA

4701 GAAGACAAAC AACGTCTGTA GCGACCCTTT GCAGGCAGCG GAACCCCCCA
CTTCTGTTTG TTGCAGACAT CGCTGGGAAA CGTCCGTCGC CTTGGGGGGT

4751	CCTGGCGACA	GGTGCCTCTG	CGGCCAAAAG	CCACGTGTAT	AAGATACACC
	GGACCGCTGT	CCACGGAGAC	GCCGGTTTTTC	GGTGACATA	TTCTATGTGG

4801	TGCAAAGGCG	GCACAACCCC	AGTGCCACGT	TGTGAGTTGG	ATAGTTGTGG
	ACGTTTCCGC	CGTGTTGGGG	TCACGGTGCA	AACTCAACC	TATCAACACC

4851	AAAGAGTCAA	ATGGCTCTCC	TCAAGCGTAT	TCAACAAGGG	GCTGAAGGAT
	TTTCTCAGTT	TACCGAGAGG	AGTTCGCATA	AGTTGTTCCC	CGACTTCCTA

4901	GCCCAGAAGG	TACCCCATTG	TATGGGATCT	GATCTGGGGC	CTCGGTGCAC
	CGGGTCTTCC	ATGGGGTAAC	ATACCCTAGA	CTAGACCCCG	GAGCCACGTG

4951	ATGCTTTACA	TGTGTTTAGT	CGAGGTTAAA	AAACGTCTAG	GCCCCCGAA
	TACGAAATGT	ACACAAATCA	GCTCCAATTT	TTTGCAGATC	CGGGGGGCTT

5001	CCACGGGGAC	GTGGTTTTTC	TTTGAAAAAC	ACGATGATAA	TACCATGATT
	GGTGCCCTG	CACCAAAGG	AAACTTTTTG	TGCTACTATT	ATGGTACTAA

5051	GAACAAGATG	GATTGCACGC	AGGTTCTCCG	GCCGCTTGGG	TGGAGAGGCT
	CTTGTTCTAC	CTAACGTGCG	TCCAAGAGGC	CGGCGAACCC	ACCTCTCCGA

5101	ATTCGGCTAT	GACTGGGCAC	AACAGACAAT	CGGCTGCTCT	GATGCCGCCG
	TAAGCCGATA	CTGACCCGTG	TTGTCTGTTA	GCCGACGAGA	CTACGGCGGC

5151	TGTTCCGGCT	GTCAGCGCAG	GGGCGCCCGG	TTCTTTTTGT	CAAGACCGAC
	ACAAGGCCGA	CAGTCGCGTC	CCCGCGGGCC	AAGAAAAACA	GTTCTGGCTG

5201	CTGTCCGGTG	CCCTGAATGA	ACTGCAGGAC	GAGGCAGCGC	GGCTATCGTG
	GACAGGCCAC	GGGACTTACT	TGACGTCCTG	CTCCGTCGCG	CCGATAGCAC

5251	GCTGGCCACG	ACGGGCGTTC	CTTGCGCAGC	TGTGCTCGAC	GTTGTCACTG
	CGACCGGTGC	TGCCCCGAAG	GAACGCGTCG	ACACGAGCTG	CAACAGTGAC

5301	AAGCGGGAAG	GGACTGGCTG	CTATTGGGCG	AAGTGCCGGG	GCAGGATCTC
	TTGCCCCCTC	CCTGACCGAC	GATAACCCGC	TTCACGGCCC	CGTCCTAGAG

5351	CTGTCACTCT	ACCTTGCTCC	TGCCGAGAAA	GTATCCATCA	TGGCTGATGC
	GACAGTAGAG	TGGAACGAGG	ACGGCTCTTT	CATAGGTAGT	ACCGACTACG

5401	AATGCGGCGG	CTGCATACGC	TTGATCCGGC	TACCTGCCCA	TTGACCAACC
	TTACGCCGCC	GACGTATGCG	AACTAGGCCG	ATGGACGGGT	AAGCTGGTGG

5451	AAGCGAAACA	TCGCATCGAG	CGAGCACGTA	CTCGGATGGA	AGCCGGTCTT
	TTGCTTTTGT	AGCGTAGCTC	GCTCGTGCAT	GAGCCTACCT	TCGGCCAGAA

5501	GTCGATCAGG	ATGATCTGGA	CGAAGAGCAT	CAGGGGCTCG	CGCCAGCCGA
	CAGCTAGTCC	TACTAGACCT	GCTTCTCGTA	GTCCCCGAGC	GCGGTCGGCT

5551	ACTGTTCGCC	AGGCTCAAGG	CGCGCATGCC	CGACGGCGAG	GATCTCGTCG
	TGACAAGCGG	TCCGAGTTCC	GCGCGTACGG	GCTGCCGCTC	CTAGAGCAGC

5601	TGACCCATGG	CGATGCCTGC	TTGCCGAATA	TCATGGTGGA	AAATGGCCGC
	ACTGGGTACC	GCTACGGACG	AACGGCTTAT	AGTACCACCT	TTTACCGGCG

5651	TTTTCTGGAT	TCATCGACTG	TGGCCGGCTG	GGTGTGGCGG	ACCGCTATCA
	AAAAGACCTA	AGTAGCTGAC	ACCGGCCGAC	CCACACCGCC	TGGCGATAGT

5701	GGACATAGCG	TTGGCTACCC	GTGATATTGC	TGAAGAGCTT	GGCGGCGAAT
	CCTGTATCGC	AACCGATGGG	CACTATAACG	ACTTCTCGAA	CCGCCGCTTA

5751	GGGCTGACCG	CTTCCTCGTG	CTTTACGGTA	TCGCCGCTCC	CGATTTCGCAG
	CCCGACTGGC	GAAGGAGCAC	GAAATGCCAT	AGCGGCGAGG	GCTAAGCGTC

5801	CGCATCGCCT	TCTATCGCCT	TCTTGACGAG	TTCTTCTGAG	CGGGACTCTG
	GCGTAGCGGA	AGATAGCGGA	AGAACTGCTC	AAGAAGACTC	GCCCTGAGAC

5851	GGGTTTCGCAT	CGATAAAATA	AAAGATTTTA	TTTAGTCTCC	AGAAAAAGGG
	CCCAAGCGTA	GCTATTTTAT	TTTCTAAAAT	AAATCAGAGG	TCTTTTCCC

5901	GGGAATGAAA	GACCCACCT	GTAGGTTTGG	CAAGCTAGCT	TAAGTAACGC
	CCCTTACTTT	CTGGGGTGGA	CATCCAAACC	GTTCGATCGA	ATTCATTGCG

5951	CATTTTGCAA	GGCATGGAAA	AATACATAAC	TGAGAATAGA	GAAGTTCAGA
	GTAAAACGTT	CCGTACCTTT	TTATGTATTG	ACTCTTATCT	CTTCAAGTCT

6001	TCAAGGTCAG	GAACAGATGG	AACAGCTGAA	TATGGGCCAA	ACAGGATATC
	AGTTCCAGTC	CTTGTCTACC	TTGTCGACTT	ATACCCGGTT	TGTCCTATAG

6051	TGTGGTAAGC	AGTTCCTGCC	CCGGCTCAGG	GCCAAGAACA	GATGGAACAG
	ACACCATTCT	TCAAGGACGG	GGCCGAGTCC	CGGTTCTTGT	CTACCTTGTC

6101	CTGAATATGG	GCCAAACAGG	ATATCTGTGG	TAAGCAGTTC	CTGCCCCGGC
	GACTTATACC	CGGTTTGTCC	TATAGACACC	ATTCGTCAAG	GACGGGGCCG

6151	TCAGGGCCAA	GAACAGATGG	TCCCCAGATG	CGGTCCAGCC	CTCAGCAGTT
	AGTCCCGGTT	CTTGTCTACC	AGGGGTCTAC	GCCAGGTCGG	GAGTCGTCAA

6201	TCTAGAGAAC	CATCAGATGT	TTCCAGGGTG	CCCCAAGGAC	CTGAAATGAC
	AGATCTCTTG	GTAGTCTACA	AAGGTCCCAC	GGGGTTCCCTG	GACTTTACTG

6251	CCTGTGCCTT	ATTTGAACTA	ACCAATCAGT	TCGCTTCTCG	CTTCTGTTCG
	GGACACGGAA	TAAACTTGAT	TGGTTAGTCA	AGCGAAGAGC	GAAGACAAGC

6301	CGCGCTTCTG	CTCCCCGAGC	TCAATAAAAG	AGCCCACAAC	CCCTCACTCG
	GCGCGAAGAC	GAGGGGCTCG	AGTTATTTTC	TCGGGTGTTG	GGGAGTGAGC

6351	GGGCGCCAGT	CCTCCGATTG	ACTGAGTCGC	CCGGGTACCC	GTGTATCCAA
	CCCGCGGTCA	GGAGGCTAAC	TGACTCAGCG	GGCCCATGGG	CACATAGGTT

6401	TAAACCCTCT	TGCAGTTGCA	TCCGACTTGT	GGTCTCGCTG	TTCCTTGGGG
	ATTTGGGAGA	ACGTCAACGT	AGGCTGAACA	CCAGAGCGAC	AAGGAACCCT

6451	GGGTCTCCTC	TGAGTGATTG	ACTACCCGTC	AGCGGGGGTC	TTTCATTTCAT
	CCCAGAGGAG	ACTACTAAC	TGATGGGCAG	TCGCCCCCAG	AAAGTAAGTA

6501	GCAGCATGTA	TCAAAATTAA	TTTGGTTTTT	TTTCTTAAGT	ATTTACATTA
	CGTCGTACAT	AGTTTTAATT	AAACCAGAAA	AAAGAATTCA	TAAATGTAAT

6551	AATGGCCATA	GTTGCATTAA	TGAATCGGCC	AACGCGCGGG	GAGAGGCGGT
	TTACCGGTAT	CAACGTAATT	ACTTAGCCGG	TTGCGCGCCC	CTCTCCGCCA

6601	TTGCGTATTG	GCGCTCTTCC	GCTTCCTCGC	TCACTGACTC	GCTGCGCTCG
	AACGCATAAC	CGCGAGAAGG	CGAAGGAGCG	AGTGACTGAG	CGACGCGAGC

6651	GTCGTTTCGGC	TGCGGCGAGC	GGTATCAGCT	CACTCAAAGG	CGGTAATACG
	CAGCAAGCCG	ACGCCGCTCG	CCATAGTCGA	GTGAGTTTCC	GCCATTATGC

6701	GTTATCCACA	GAATCAGGGG	ATAACGCAGG	AAAGAACATG	TGAGCAAAAG
	CAATAGGTGT	CTTAGTCCCC	TATTGCGTCC	TTTCTTGTAC	ACTCGTTTTT

6751	GCCAGCAAAA	GGCCAGGAAC	CGTAAAAAGG	CCGCGTTGCT	GGCGTTTTTC
	CGGTCGTTTT	CCGGTCCTTG	GCATTTTTTC	GGCGCAACGA	CCGCAAAAAG

6801	CATAGGCTCC	GCCCCCTGA	CGAGCATCAC	AAAAATCGAC	GCTCAAGTCA
	GTATCCGAGG	CGGGGGGACT	GCTCGTAGTG	TTTTTAGCTG	CGAGTTCAGT

6851	GAGGTGGCGA	AACCCGACAG	GACTATAAAG	ATACCAGGCG	TTTCCCCCTG
	CTCCACCGCT	TTGGGCTGTC	CTGATATTTT	TATGGTCCGC	AAAGGGGGAC

6901	GAAGCTCCCT	CGTGCGCTCT	CCTGTTCCGA	CCCTGCCGCT	TACCGGATAC
	CTTCGAGGGA	GCACGCGAGA	GGACAAGGCT	GGGACGGCGA	ATGGCCTATG

6951	CTGTCCGCCT	TTCTCCCTTC	GGGAAGCGTG	GCGCTTTCTC	ATAGCTCACG
	GACAGGCGGA	AAGAGGGAAG	CCCTTCGCAC	CGCGAAAGAG	TATCGAGTGC

7001	CTGTAGGTAT	CTCAGTTCGG	TGTAGGTCGT	TCGCTCCAAG	CTGGGCTGTG
	GACATCCATA	GAGTCAAGCC	ACATCCAGCA	AGCGAGGTTC	GACCCGACAC

7051	TGCACGAACC	CCCCGTTCAG	CCCGACCGCT	GCGCCTTATC	CGGTAACTAT
	ACGTGCTTGG	GGGGCAAGTC	GGGCTGGCGA	CGCGGAATAG	GCCATTGATA

7101	CGTCTTGAGT	CCAACCCGGT	AAGACACGAC	TTATCGCCAC	TGGCAGCAGC
	GCAGAACTCA	GGTTGGGCCA	TTCTGTGCTG	AATAGCGGTG	ACCGTCGTCG

7151	CACTGGTAAC	AGGATTAGCA	GAGCGAGGTA	TGTAGGCGGT	GCTACAGAGT
	GTGACCATTG	TCCTAATCGT	CTCGCTCCAT	ACATCCGCCA	CGATGTCTCA

7201	TCTTGAAGTG	GTGGCCTAAC	TACGGCTACA	CTAGAAGAAC	AGTATTTGGT
	AGAACTTCAC	CACCGGATTG	ATGCCGATGT	GATCTTCTTG	TCATAAACCA

7251	ATCTGCGCTC	TGCTGAAGCC	AGTTACCTTC	GGAAAAAGAG	TTGGTAGCTC
	TAGACGCGAG	ACGACTTCGG	TCAATGGAAG	CCTTTTTTCTC	AACCATCGAG

7301	TTGATCCGGC	AAACAAACCA	CCGCTGGTAG	CGGTGGTTTT	TTTGTTTGCA
	AACTAGGCCG	TTTGTTTGGT	GGCGACCATC	GCCACCAAAA	AAACAAACGT

7351	AGCAGCAGAT	TACGCGCAGA	AAAAAAGGAT	CTCAAGAAGA	TCCTTTGATC
	TCGTGCTCTA	ATGCGCGTCT	TTTTTTCCTA	GAGTTCCTCT	AGGAAACTAG

7401	TTTTCTACGG	GGTCTGACGC	TCAGTGGAAC	GAAAACTCAC	GTAAAGGGAT
	AAAAGATGCC	CCAGACTGCG	AGTCACCTTG	CTTTTGAGTG	CAATTCCTTA

7451	TTTGGTCATG	AGATTATCAA	AAAGGATCTT	CACCTAGATC	CTTTTGCGGC
	AAACCAGTAC	TCTAATAGTT	TTTCCTAGAA	GTGGATCTAG	GAAAACGCCG

7501	CGCAAATCAA	TCTAAAGTAT	ATATGAGTAA	ACTTGGTCTG	ACAGTTACCA
	GCGTTTAGTT	AGATTTTATA	TATACTCATT	TGAACCAGAC	TGTCAATGGT

7551	ATGCTTAATC	AGTGAGGCAC	CTATCTCAGC	GATCTGTCTA	TTTCGTTTCA
	TACGAATTAG	TCACTCCGTG	GATAGAGTCG	CTAGACAGAT	AAAGCAAGTA

7601 CCATAGTTGC CTGACTCCCC GTCGTGTAGA TAACTACGAT ACGGGAGGGC
GGTATCAACG GACTGAGGGG CAGCACATCT ATTGATGCTA TGCCCTCCCG

7651 TTACCATCTG GCCCCAGTGC TGCAATGATA CCGCGAGACC CACGCTCACC
AATGGTAGAC CGGGGTCACG ACGTTACTAT GGCGCTCTGG GTGCGAGTGG

7701 GGCTCCAGAT TTATCAGCAA TAAACCAGCC AGCCGGAAGG GCCGAGCGCA
CCGAGGTCTA AATAGTCGTT ATTTGGTCGG TCGGCCTTCC CGGCTCGCGT

7751 GAAGTGGTCC TGCAACTTTA TCCGCCTCCA TCCAGTCTAT TAATTGTTGC
CTTCACCAGG ACGTTGAAAT AGGCGGAGGT AGGTCAGATA ATTAACAACG

7801 CGGGAAGCTA GAGTAAGTAG TTCGCCAGTT AATAGTTTGC GCAACGTTGT
GCCCTTCGAT CTCATTCATC AAGCGGTCAA TTATCAAACG CGTTGCAACA

7851 TGCCATTGCT ACAGGCATCG TGGTGTACG CTCGTCGTTT GGTATGGCTT
ACGGTAACGA TGTCCGTAGC ACCACAGTGC GAGCAGCAAA CCATACCGAA

7901 CATTACAGCTC CGGTTCCCAA CGATCAAGGC GAGTTACATG ATCCCCCATG
GTAAGTCGAG GCCAAGGGTT GCTAGTTCCG CTCAATGTAC TAGGGGGTAC

7951 TTGTGCAAAA AAGCGGTTAG CTCCTTCGGT CCTCCGATCG TTGTCAGAAG
AACACGTTTT TTCGCCAATC GAGGAAGCCA GGAGGCTAGC AACAGTCTTC

8001 TAAGTTGGCC GCAGTGTTAT CACTCATGGT TATGGCAGCA CTGCATAATT
ATTCAACCGG CGTCACAATA GTGAGTACCA ATACCGTCGT GACGTATTAA

8051 CTCTTACTGT CATGCCATCC GTAAGATGCT TTTCTGTGAC TGGTGAGTAC
GAGAATGACA GTACGGTAGG CATTCTACGA AAAGACACTG ACCACTCATG

8101 TCAACCAAGT CATTCTGAGA ATAGTGTATG CGGCGACCGA GTTGCTCTTG
AGTTGGTTCA GTAAGACTCT TATCACATAC GCCGCTGGCT CAACGAGAAC

8151 CCCGGCGTCA ATACGGGATA ATACCGCGCC ACATAGCAGA ACTTTAAAAG
GGGCCGCAGT TATGCCCTAT TATGGCGCGG TGTATCGTCT TGAAATTTTC

8201 TGCTCATCAT TGGAAAACGT TCTTCGGGGC GAAAACTCTC AAGGATCTTA
ACGAGTAGTA ACCTTTTGCA AGAAGCCCCG CTTTGTAGAG TTCCTAGAAT

8251 CCGCTGTTGA GATCCAGTTC GATGTAACCC ACTCGTGCAC CCAACTGATC
GGCGACAACT CTAGGTCAAG CTACATTGGG TGAGCACGTG GGTTGACTAG

8301 TTCAGCATCT TTTACTTTCA CCAGCGTTTC TGGGTGAGCA AAAACAGGAA
AAGTCGTAGA AAATGAAAGT GGTCGCAAAG ACCCACTCGT TTTTGTCTT

8351 GGCAAAATGC CGCAAAAAG GGAATAAGGG CGACACGGAA ATGTTGAATA
CCGTTTTACG GCGTTTTTTC CTTATTCCC GCTGTGCCTT TACAATTAT

8401 CTCATACTCT TCCTTTTTCA ATATTATTGA AGCATTATC AGGGTTATTG
GAGTATGAGA AGGAAAAAGT TATAATAACT TCGTAAATAG TCCCAATAAC

8451 TCTCATGAGC GGATACATAT TTGAATGTAT TTAGAAAAAT AAACAAATAG
AGAGTACTCG CCTATGTATA AACTTACATA AATCTTTTAA TTTGTTTATC

8501 GGGTTCCGCG CACATTTT
CCCAAGGCGC GTGTAAAG

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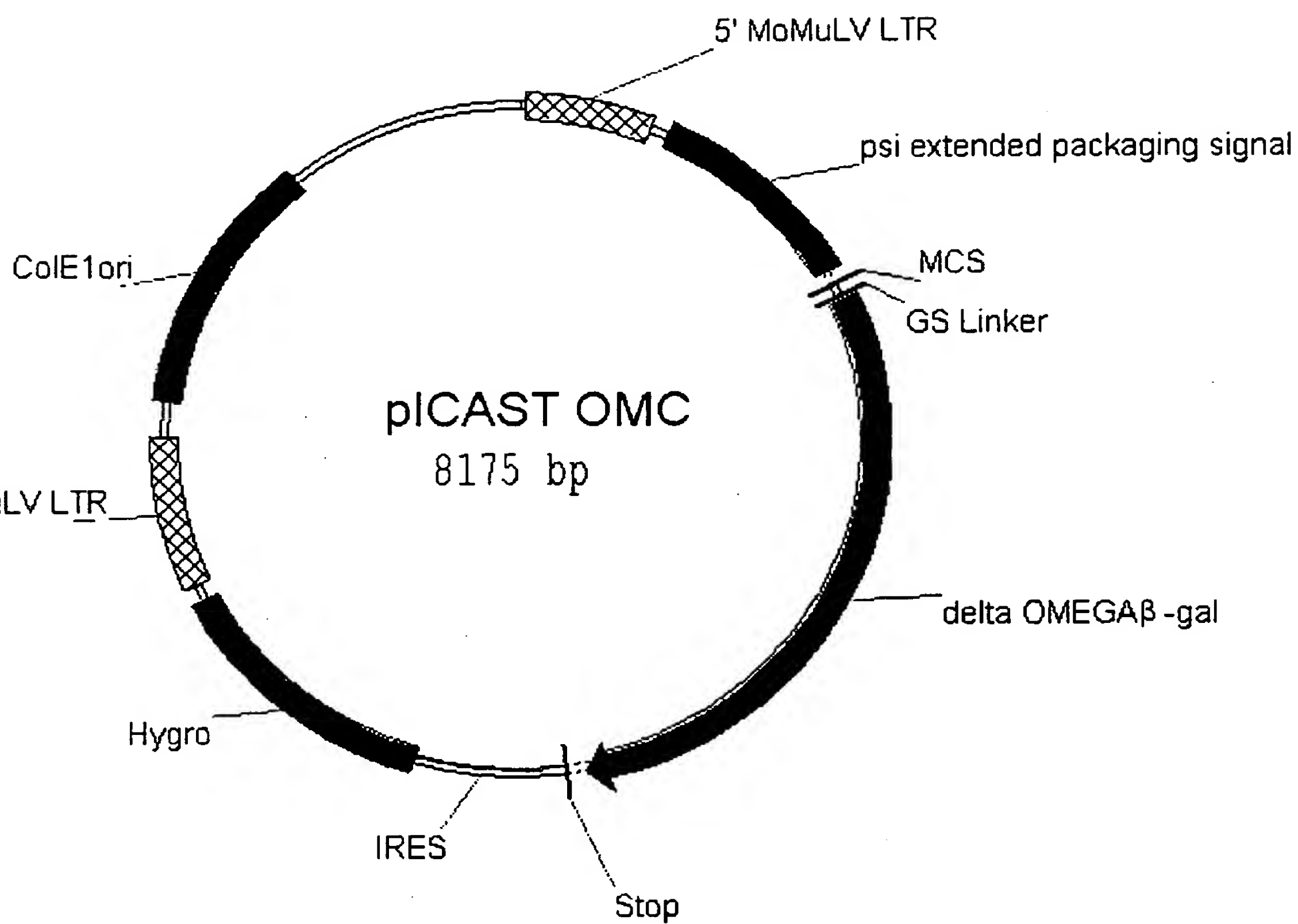


Figure 12A

1	CTGCAGCCTG	AATATGGGCC	AAACAGGATA	TCTGTGGTAA	GCAGTTCCTG
	GACGTCGGAC	TTATACCCGG	TTTGTCTTAT	AGACACCATT	CGTCAAGGAC

51	CCCCGGCTCA	GGGCCAAGAA	CAGATGGAAC	AGCTGAATAT	GGGCCAAACA
	GGGGCCGAGT	CCCGGTTCTT	GTCTACCTTG	TCGACTTATA	CCCGGTTTGT

101	GGATATCTGT	GGTAAGCAGT	TCCTGCCCCG	GCTCAGGGCC	AAGAACAGAT
	CCTATAGACA	CCATTCGTCA	AGGACGGGGC	CGAGTCCCGG	TTCTTGTCTA

151	GGTCCCCAGA	TGCGGTCCAG	CCCTCAGCAG	TTTCTAGAGA	ACCATCAGAT
	CCAGGGGTCT	ACGCCAGGTC	GGGAGTCGTC	AAAGATCTCT	TGGTAGTCTA

201	GTTTCCAGGG	TGCCCCAAGG	ACCTGAAATG	ACCCTGTGCC	TTATTTGAAC
	CAAAGGTCCC	ACGGGGTTCC	TGGACTTTAC	TGGGACACGG	AATAAACTTG

251	TAACCAATCA	GTTTCGCTTCT	CGCTTCTGTT	CGCGCGCTTC	TGCTCCCCGA
	ATTGGTTAGT	CAAGCGAAGA	GCGAAGACAA	GCGCGCGAAG	ACGAGGGGCT

301	GCTCAATAAA	AGAGCCCACA	ACCCCTCACT	CGGGGCGCCA	GTCCTCCGAT
	CGAGTTATTT	TCTCGGGTGT	TGGGGAGTGA	GCCCCGCGGT	CAGGAGGCTA

351	TGACTGAGTC	GCCCCGGGTAC	CCGTGTATCC	AATAAACCCCT	CTTGCAAGTTG
	ACTGACTCAG	CGGGCCCATG	GGCACATAGG	TTATTTGGGA	GAACGTCAAC

401	CATCCGACTT	GTGGTCTCGC	TGTTCCCTTG	GAGGGTCTCC	TCTGAGTGAT
	GTAGGCTGAA	CACCAGAGCG	ACAAGGAACC	CTCCCAGAGG	AGACTCACTA

451	TGACTACCCG	TCAGCGGGGG	TCTTTCATTT	GGGGGCTCGT	CCGGGATCGG
	ACTGATGGGC	AGTCGCCCCC	AGAAAGTAAA	CCCCCGAGCA	GGCCCTAGCC

501	GAGACCCCTG	CCCAGGGACC	ACCGACCCAC	CACCGGGAGG	CAAGCTGGCC
	CTCTGGGGAC	GGGTCCCTGG	TGGCTGGGTG	GTGGCCCTCC	GTTCGACCGG

551	AGCAACTTAT	CTGTGTCTGT	CCGATTGTCT	AGTGTCTATG	ACTGATTTTA
	TCGTTGAATA	GACACAGACA	GGCTAACAGA	TCACAGATAC	TGACTAAAT

601	TGCGCCTGCG	TCGGTACTAG	TTAGCTAACT	AGCTCTGTAT	CTGGCGGACC
	ACGCGGACGC	AGCCATGATC	AATCGATTGA	TCGAGACATA	GACCGCCTGG

651	CGTGGTGGAA	CTGACGAGTT	CTGAACACCC	GGCCGCAACC	CTGGGAGACG
	GCACCACCTT	GACTGCTCAA	GACTTGTGGG	CCGGCGTTGG	GACCCTCTGC

701	TCCCAGGGAC	TTTGGGGGCC	GTTTTTGTGG	CCCGACCTGA	GGAAGGGAGT
	AGGGTCCCTG	AAACCCCCGG	CAAAAACACC	GGGCTGGACT	CCTTCCCTCA

751	CGATGTGGAA	TCCGACCCCG	TCAGGATATG	TGGTTCTGGT	AGGAGACGAG
	GCTACACCTT	AGGCTGGGGC	AGTCCTATAC	ACCAAGACCA	TCCTCTGCTC

801	AACCTAAAC	AGTTCCCGCC	TCCGTCTGAA	TTTTTGCTTT	CGGTTTGGAA
	TTGGATTTTG	TCAAGGGCGG	AGGCAGACTT	AAAAACGAAA	GCCAAACCTT

851	CCGAAGCCGC	GCGTCTTGTC	TGCTGCAGCA	TCGTTCTGTG	TTGTCTCTGT
	GGCTTCGGCG	CGCAGAACAG	ACGACGTCGT	AGCAAGACAC	AACAGAGACA

901	CTGACTGTGT	TTCTGTATTT	GTCTGAAAAT	TAGGGCCAGA	CTGTTACCAC
	GACTGACACA	AAGACATAAA	CAGACTTTTA	ATCCCGGTCT	GACAATGGTG

FIGURE 12B

951	TCCCTTAAGT	TTGACCTTAG	GTAAGTGGAA	AGATGTGCGAG	CGGCTCGCTC
	AGGGAATTCA	AACTGGAATC	CATTGACCTT	TCTACAGCTC	GCCGAGCGAG

1001	ACAACCAGTC	GGTAGATGTC	AAGAAGAGAC	GTTGGGTTAC	CTTCTGCTCT
	TGTTGGTCAG	CCATCTACAG	TTCTTCTCTG	CAACCCAATG	GAAGACGAGA

1051	GCAGAATGGC	CAACCTTTAA	CGTCGGATGG	CCGCGAGACG	GCACCTTTAA
	CGTCTTACCG	GTTGGAAATT	GCAGCCTACC	GGCGCTCTGC	CGTGGAAATT

1101	CCGAGACCTC	ATCACCCAGG	TTAAGATCAA	GGTCTTTTCA	CCTGGCCCCG
	GGCTCTGGAG	TAGTGGGTCC	AATTCTAGTT	CCAGAAAAGT	GGACCGGGCG

1151	ATGGACACCC	AGACCAGGTC	CCCTACATCG	TGACCTGGGA	AGCCTTGGCT
	TACCTGTGGG	TCTGGTCCAG	GGGATGTAGC	ACTGGACCCT	TCGGAACCGA

1201	TTTGACCCCC	CTCCCTGGGT	CAAGCCCTTT	GTACACCCTA	AGCCTCCGCC
	AAACTGGGGG	GAGGGACCCA	GTTCGGGAAA	CATGTGGGAT	TCGGAGGCGG

1251	TCCTCTTCCT	CCATCCGCCC	CGTCTCTCCC	CCTTGAACCT	CCTCGTTCGA
	AGGAGAAGGA	GGTAGGCGGG	GCAGAGAGGG	GGAACCTGGA	GGAGCAAGCT

1301	CCCCGCCTCG	ATCCTCCCTT	TATCCAGCCC	TCACTCCTTC	TCTAGGCGCC
	GGGGCGGAGC	TAGGAGGGAA	ATAGGTCGGG	AGTGAGGAAG	AGATCCGCGG

1351	GGCCGCTCTA	GCCCATTAAT	ACGACTCACT	ATAGGGCGAT	TCGAATCAGG
	CCGGCGAGAT	CGGGTAATTA	TGCTGAGTGA	TATCCCGCTA	AGCTTAGTCC

1401	CCTTGGCGCG	CCGGATCCTT	AATTAAGCGC	AATTGGGAGG	TGGCGGTAGC
	GGAACCGCGC	GGCCTAGGAA	TTAATTCGCG	TTAACCCCTC	ACCGCCATCG

1451	CTCGAGATGG	GCGTGATTAC	GGATTCACTG	GCCGTCGTTT	TACAACGTCT
	GAGCTCTACC	CGCACTAATG	CCTAAGTGAC	CGGCAGCAAA	ATGTTGCAGC

1501	TGACTGGGAA	AACCCTGGCG	TTACCCAACT	TAATCGCCTT	GCAGCACATC
	ACTGACCCTT	TTGGGACCGC	AATGGGTTGA	ATTAGCGGAA	CGTCGTGTAG

1551	CCCCTTTTCG	CAGCTGGCGT	AATAGCGAAG	AGGCCCGCAC	CGATCGCCCT
	GGGGAAAGCG	GTCGACCGCA	TTATCGCTTC	TCCGGGCGTG	GCTAGCGGGA

1601	TCCCAACAGT	TACGCAGCCT	GAATGGCGAA	TGGCGCTTTG	CCTGGTTTCC
	AGGGTTGTCA	ATGCGTCGGA	CTTACCGCTT	ACCGCGAAAC	GGACCAAAGG

1651	GGCACCAGAA	GCGGTGCCGG	AAAGCTGGCT	GGAGTGCGAT	CTTCCTGAGG
	CCGTGGTCTT	CGCCACGGCC	TTTCGACCGA	CCTCACGCTA	GAAGGACTCC

1701	CCGATACTGT	CGTCGTCCCC	TCAAACCTGG	AGATGCACGG	TTACGATGCG
	GGCTATGACA	GCAGCAGGGG	AGTTTGACCG	TCTACGTGCC	AATGCTACGC

1751	CCCATCTACA	CCAACGTGAC	CTATCCCATT	ACGGTCAATC	CGCCGTTTGT
	GGGTAGATGT	GGTTGCACTG	GATAGGGTAA	TGCCAGTTAG	GCGGCAAACA

1801	TCCCACGGAG	AATCCGACGG	GTTGTTACTC	GCTCACATTT	AATGTTGATG
	AGGGTGCCCT	TTAGGCTGCC	CAACAATGAG	CGAGTGTAAG	TTACAACCTA

1851	AAAGCTGGCT	ACAGGAAGGC	CAGACGCGAA	TTATTTTTGA	TGGCGTTAAC
	TTTCGACCGA	TGTCCTTCCG	GTCTGCGCTT	AATAAAACT	ACCGCAATTG

1901	TCGGCGTTTC	ATCTGTGGTG	CAACGGGGCGC	TGGGTCGGTT	ACGGCCAGGA
	AGCCGCAAAG	TAGACACCAC	GTTGCCCCGCG	ACCCAGCCAA	TGCCGGTCCCT

1951	CAGTCGTTTG	CCGTCTGAAT	TTGACCTGAG	CGCATTTTTTA	CGCGCCGGAG
	GTCAGCAAAC	GGCAGACTTA	AACTGGACTC	GCGTAAAAAT	GCGCGGCCTC

2001	AAAACCGCCT	CGCGGTGATG	GTGCTGCGCT	GGAGTGACGG	CAGTTATCTG
	TTTTGGCGGA	GCGCCACTAC	CACGACGCGA	CCTCACTGCC	GTCAATAGAC

2051	GAAGATCAGG	ATATGTGGCG	GATGAGCGGC	ATTTTCCGTG	ACGTCTCGTT
	CTTCTAGTCC	TATACACCGC	CTACTCGCCG	TAAAAGGCAC	TGCAGAGCAA

2101	GCTGCATAAA	CCGACTACAC	AAATCAGCGA	TTTCCATGTT	GCCACTCGCT
	CGACGTATTT	GGCTGATGTG	TTTAGTCGCT	AAAGGTACAA	CGGTGAGCGA

2151	TTAATGATGA	TTTCAGCCGC	GCTGTACTGG	AGGCTGAAGT	TCAGATGTGC
	AATTACTACT	AAAGTCGGCG	CGACATGACC	TCCGACTTCA	AGTCTACACG

2201	GGCGAGTTGC	GTGACTACCT	ACGGGTAACA	GTTTCTTTAT	GGCAGGGTGA
	CCGCTCAACG	CACTGATGGA	TGCCCATTGT	CAAAGAAATA	CCGTCCCCT

2251	AACGCAGGTC	GCCAGCGGCA	CCGCGCCTTT	CGGCGGTGAA	ATTATCGATG
	TTGCGTCCAG	CGGTGCGCGT	GGCGCGGAAA	GCCGCCACTT	TAATAGCTAC

2301	AGCGTGGTGG	TTATGCCGAT	CGCGTCACAC	TACGTCTGAA	CGTCGAAAAC
	TCGCACCACC	AATACGGCTA	GCGCAGTGTG	ATGCAGACTT	GCAGCTTTTG

2351	CCGAAACTGT	GGAGCGCCGA	AATCCCGAAT	CTCTATCGTG	CGGTGGTTGA
	GGCTTTGACA	CCTCGCGGCT	TTAGGGCTTA	GAGATAGCAC	GCCACCAACT

2401	ACTGCACACC	GCCGACGGCA	CGCTGATTGA	AGCAGAAGCC	TGCGATGTGCG
	TGACGTGTGG	CGGCTGCCGT	GCGACTAACT	TCGTCTTCGG	ACGCTACAGC

2451	GTTTCCGCGA	GGTGCGGATT	GAAAATGGTC	TGCTGCTGCT	GAACGGCAAG
	CAAAGGCGCT	CCACGCCTAA	CTTTTACCAG	ACGACGACGA	CTTGCCGTTC

2501	CCGTTGCTGA	TTGAGGCGGT	TAACCGTCAC	GAGCATCATC	CTCTGCATGG
	GGCAACGACT	AAGCTCCGCA	ATTGGCAGTG	CTCGTAGTAG	GAGACGTACC

2551	TCAGGTCATG	GATGAGCAGA	CGATGGTGCA	GGATATCCTG	CTGATGAAGC
	AGTCCAGTAC	CTACTCGTCT	GCTACCACGT	CCTATAGGAC	GACTACTTCG

2601	AGAACAACCT	TAACGCCGTG	CGCTGTTTCGC	ATTATCCGAA	CCATCCGCTG
	TCTTGTTGAA	ATTGCGGCAC	GCGACAAGCG	TAATAGGCTT	GGTAGGCGAC

2651	TGGTACACGC	TGTGCGACCG	CTACGGCCTG	TATGTGGTGG	ATGAAGCCAA
	ACCATGTGCG	ACACGCTGGC	GATGCCGGAC	ATACACCACC	TACTTCGGTT

2701	TATTGAAACC	CACGGCATGG	TGCCAATGAA	TCGTCTGACC	GATGATCCGC
	ATAACTTTGG	GTGCCGTACC	ACGGTTACTT	AGCAGACTGG	CTACTAGGCG

2751	GCTGGCTACC	GGCGATGAGC	GAACGCGTAA	CGCGAATGGT	GCAGCGCGAT
	CGACCGATGG	CCGCTACTCG	CTTGCGCATT	GCGCTTACCA	CGTCGCGCTA

2801	CGTAATCACC	CGAGTGTGAT	CATCTGGTCG	CTGGGGGAATG	AATCAGGCCA
	GCATTAGTGG	GCTCACACTA	GTAGACCAGC	GACCCCTTAC	TTAGTCCGGT

2851	CGGCGCTAAT	CACGACGCGC	TGTATCGCTG	GATCAAATCT	GTCGATCCTT
	GCCGCGATTA	GTGCTGCGCG	ACATAGCGAC	CTAGTTTAGA	CAGCTAGGAA

2901	CCCGCCCGGT	GCAGTATGAA	GGCGGCGGAG	CCGACACCAC	GGCCACCGAT
	GGGCGGGCCA	CGTCATACTT	CCGCCGCCTC	GGCTGTGGTG	CCGGTGGCTA

2951	ATTATTTGCC	CGATGTACGC	GCGCGTGGAT	GAAGACCAGC	CCTTCCCggc
	TAATAAACGG	GCTACATGCG	CGCGCACCTA	CTTCTGGTCG	GGAAGGGCCG

3001	TGTGCCGAAA	TGGTCCATCA	AAAAATGGCT	TTCGCTACCT	GGAGAGACGC
	ACACGGCTTT	ACCAGGTAGT	TTTTTACCGA	AAGCGATGGA	CCTCTCTGCG

3051	GCCCGCTGAT	CCTTTGCGAA	TACGCCCACG	CGATGGGTAA	CAGTCTTGGC
	CGGGCGACTA	GGAAACGCTT	ATGCGGGTGC	GCTACCCATT	GTCAGAACCG

3101	GGTTTCGCTA	AATACTGGCA	GGCGTTTCGT	CAGTATCCCC	GTTTACAGGG
	CCAAAGCGAT	TTATGACCGT	CCGCAAAGCA	GTCATAGGGG	CAAATGTCCC

3151	CGGCTTCGTC	TGGGACTGGG	TGGATCAGTC	GCTGATTAAA	TATGATGAAA
	GCCGAAGCAG	ACCCTGACCC	ACCTAGTCAG	CGACTAATTT	ATACTACTTT

3201	ACGGCAACCC	GTGGTCGGCT	TACGGCGGTG	ATTTTGGCGA	TACGCCGAAC
	TGCCGTTGGG	CACCAGCCGA	ATGCCGCCAC	TAAAACCGCT	ATGCGGCTTG

3251	GATCGCCAGT	TCTGTATGAA	CGGTCTGGTC	TTTGCCGACC	GCACGCCGCA
	CTAGCGGTCA	AGACATACTT	GCCAGACCAG	AAACGGCTGG	CGTGCGGCGT

3301	TCCAGCGCTG	ACGGAAGCAA	AACACCAGCA	GCAGTTTTTC	CAGTTCCGTT
	AGGTCGCGAC	TGCCTTCGTT	TTGTGGTCGT	CGTCAAAAAG	GTCAAGGCAA

3351	TATCCGGGCA	AACCATCGAA	GTGACCAGCG	AATACCTGTT	CCGTCATAGC
	ATAGGCCCGT	TTGGTAGCTT	CACTGGTCGC	TTATGGACAA	GGCAGTATCG

3401	GATAACGAGC	TCCTGCACTG	GATGGTGGCG	CTGGATGGTA	AGCCGCTGGC
	CTATTGCTCG	AGGACGTGAC	CTACCACCGC	GACCTACCAT	TCGGCGACCG

3451	AAGCGGTGAA	GTGCCTCTGG	ATGTCGCTCC	ACAAGGTAAA	CAGTTGATTG
	TTCGCCACTT	CACGGAGACC	TACAGCGAGG	TGTTCCATTT	GTCAACTAAC

3501	AACTGCCTGA	ACTACCGCAG	CCGGAGAGCG	CCGGGCAACT	CTGGCTCACA
	TTGACGGACT	TGATGGCGTC	GGCCTCTCGC	GGCCCGTTGA	GACCGAGTGT

3551	GTACGCGTAG	TGCAACCGAA	CGCGACCGCA	TGGTCAGAAG	CCGGGCACAT
	CATGCGCATC	ACGTTGGCTT	GCGCTGGCGT	ACCAGTCTTC	GGCCCGTGTA

3601	CAGCGCCTGG	CAGCAGTGGC	GTCTGGCGGA	AAACCTCAGT	GTGACGCTCC
	GTCGCGGACC	GTCGTCACCG	CAGACCGCCT	TTTGGAGTCA	CACTGCGAGG

3651	CCGCCGCGTC	CCACGCCATC	CCGCATCTGA	CCACCAGCGA	AATGGATTTT
	GGCGGCGCAG	GGTGCGGTAG	GGCGTAGACT	GGTGGTCGCT	TTACCTAAAA

3701	TGCATCGAGC	TGGGTAATAA	GCGTTGGCAA	TTTAACCGCC	AGTCAGGCTT
	ACGTAGCTCG	ACCCATTATT	CGCAACCGTT	AAATTGGCGG	TCAGTCCGAA

3751	TCTTTCACAG	ATGTGGATTG	GCGATAAAAA	ACAAGTGGTG	ACGCCGCTGC
	AGAAAGTGTC	TACACCTAAC	CGCTATTTTT	TGTTGACGAC	TGCGGCGACG

3801 GCGATCAGTT CACCCGTGTC GATAGATCTG AACAGAACT CATTTCGAA
CGCTAGTCAA GTGGGCACAG CTATCTAGAC TTGTCTTTGA GTAAAGGCTT

3851 GAAGACCTAG TCGACCATCA TCATCATCAT CACCGGTAAT AATAGGTAGA
CTTCTGGATC AGCTGGTAGT AGTAGTAGTA GTGGCCATTA TTATCCATCT

3901 TAAGTGACTG ATTAGATGCA TTTCGACTAG ATCCCTCGAC CAATTCCGGT
ATTCATGAC TAATCTACGT AAAGCTGATC TAGGGAGCTG GTTAAGGCCA

3951 TATTTTCCAC CATATTGCCG TCTTTTGGCA ATGTGAGGGC CCGGAAACCT
ATAAAAGGTG GTATAACGGC AGAAAACCGT TACACTCCCG GGCCTTTGGA

4001 GGCCCTGTCT TCTTGACGAG CATTCCTAGG GGTCTTTCCC CTCTCGCCAA
CCGGGACAGA AGAACTGCTC GTAAGGATCC CCAGAAAGGG GAGAGCGGTT

4051 AGGAATGCAA GGTCTGTTGA ATGTCGTGAA GGAAGCAGTT CCTCTGGAAG
TCCTTACGTT CCAGACAACT TACAGCACTT CCTTCGTCAA GGAGACCTTC

4101 CTTCTTGAAG ACAAACAACG TCTGTAGCGA CCCTTTGCAG GCAGCGGAAC
GAAGAACTTC TGTTTGTTGC AGACATCGCT GGGAAACGTC CGTCGCCTTG

4151 CCCCCACCTG GCGACAGGTG CCTCTGCGGC CAAAAGCCAC GTGTATAAGA
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4201 TACACCTGCA AAGGCGGCAC AACCCCAAGT CCACGTTGTG AGTTGGATAG
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4251 TTGTGGAAAG AGTCAAATGG CTCTCCTCAA GCGTATTCAA CAAGGGGCTG
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4301 AAGGATGCCC AGAAGGTACC CCATTGTATG GGATCTGATC TGGGGCCTCG
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4351 GTGCACATGC TTTACATGTG TTTAGTCGAG GTTAAAAAAC GTCTAGGCCC
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4401 CCCGAACCAC GGGGACGTGG TTTTCCTTTG AAAAACACGA TGATAATACC
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4451 ATGAAAAAGC CTGAACTCAC CGCGACGTCT GTCGAGAAGT TTCTGATCGA
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4501 AAAGTTCGAC AGCGTCTCCG ACCTGATGCA GCTCTCGGAG GGCGAAGAAT
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4551 CTCGTGCTTT CAGCTTCGAT GTAGGAGGGC GTGGATATGT CCTGCGGGTA
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4601 AATAGCTGCG CCGATGGTTT CTACAAAGAT CGTTATGTTT ATCGGCACTT
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4651 TGCATCGGCC GCGCTCCCGA TTCCGGAAGT GCTTGACATT GGGGAATTTA
ACGTAGCCGG CGCGAGGGCT AAGGCCTTCA CGAACTGTAA CCCCTTAAAT

4701 GCGAGAGCCT GACCTATTGC ATCTCCCGCC GTGCACAGGG TGTCACGTTG
CGCTCTCGGA CTGGATAACG TAGAGGGCGG CACGTGTCCC ACAGTGCAAC

4751	CAAGACCTGC	CTGAAACCGA	ACTGCCCGCT	GTTCTGCAGC	CGGTCGCGGA
	GTTCTGGACG	GACTTTGGCT	TGACGGGCGA	CAAGACGTCG	GCCAGCGCCT

4801	GGCCATGGAT	GCGATCGCTG	CGGCCGATCT	TAGCCAGACG	AGCGGGTTTCG
	CCGGTACCTA	CGCTAGCGAC	GCCGGCTAGA	ATCGGTCTGC	TCGCCCCAAGC

4851	GCCCATTTCG	ACCGCAAGGA	ATCGGTCAAT	ACACTACATG	GCGTGATTTC
	CGGGTAAGCC	TGGCGTTCCT	TAGCCAGTTA	TGTGATGTAC	CGCACTAAAG

4901	ATATGCGCGA	TTGCTGATCC	CCATGTGTAT	CACTGGCAAA	CTGTGATGGA
	TATACGCGCT	AACGACTAGG	GGTACACATA	GTGACCGTTT	GACACTACCT

4951	CGACACCGTC	AGTGCGTCCG	TCGCGCAGGC	TCTCGATGAG	CTGATGCTTT
	GCTGTGGCAG	TCACGCAGGC	AGCGCGTCCG	AGAGCTACTC	GACTACGAAA

5001	GGGCCGAGGA	CTGCCCCGAA	GTCCGGCACC	TCGTGCACGC	GGATTTTCGGC
	CCCGGCTCCT	GACGGGGCTT	CAGGCCGTGG	AGCACGTGCG	CCTAAAGCCG

5051	TCCAACAATG	TCCTGACGGA	CAATGGCCGC	ATAACAGCGG	TCATTGACTG
	AGGTTGTTAC	AGGACTGCCT	GTTACCGGCG	TATTGTCGCC	AGTAACTGAC

5101	GAGCGAGGCG	ATGTTTCGGG	ATTCCCAATA	CGAGGTCGCC	AACATCTTCT
	CTCGCTCCGC	TACAAGCCCC	TAAGGGTTAT	GCTCCAGCGG	TTGTAGAAGA

5151	TCTGGAGGCC	GTGGTTGGCT	TGTATGGAGC	AGCAGACGCG	CTACTTCGAG
	AGACCTCCGG	CACCAACCGA	ACATACCTCG	TCGTCTGCGC	GATGAAGCTC

5201	CGGAGGCATC	CGGAGCTTGC	AGGATCGCCG	CGGCTCCGGG	CGTATATGCT
	GCCTCCGTAG	GCCTCGAACG	TCCTAGCGGC	GCCGAGGCC	GCATATACGA

5251	CCGCATTGGT	CTTGACCAAC	TCTATCAGAG	CTTGGTTGAC	GGCAATTTTCG
	GGCGTAACCA	GAAGTGGTTG	AGATAGTCTC	GAACCAACTG	CCGTAAAGC

5301	ATGATGCAGC	TTGGGCGCAG	GGTCGATGCG	ACGCAATCGT	CCGATCCGGA
	TACTACGTCG	AACCCGCGTC	CCAGCTACGC	TGCGTTAGCA	GGCTAGGCCT

5351	GCCGGGACTG	TCGGGCGTAC	ACAAATCGCC	CGCAGAAGCG	CGGCCGTCTG
	CGGCCCTGAC	AGCCCGCATG	TGTTTAGCGG	GCGTCTTCGC	GCCGGCAGAC

5401	GACCGATGGC	TGTGTAGAAG	TACTCGCCGA	TAGTGGAAC	CGACGCCCCA
	CTGGCTACCG	ACACATCTTC	ATGAGCGGCT	ATCACCTTTG	GCTGCGGGGT

5451	GCACTCGTCC	GAGGGCAAAG	GAATAGAGTA	GATGCCGACC	GGGATCTATC
	CGTGAGCAGG	CTCCCGTTTC	CTTATCTCAT	CTACGGCTGG	CCCTAGATAG

5501	GATAAAATAA	AAGATTTTAT	TTAGTCTCCA	GAAAAAGGGG	GGAATGAAAG
	CTATTTTATT	TTCTAAATA	AATCAGAGGT	CTTTTCCCC	CCTTACTTTC

5551	ACCCACCTG	TAGGTTTGGC	AAGCTAGCTT	AAGTAACGCC	ATTTTGCAAG
	TGGGGTGGAC	ATCCAAACCG	TTCGATCGAA	TTCATTGCGG	TAAAACGTTC

5601	GCATGGAAAA	ATACATAACT	GAGAATAGAG	AAGTTCAGAT	CAAGGTCAGG
	CGTACCTTTT	TATGTATTGA	CTCTTATCTC	TTCAAGTCTA	GTTCCAGTCC

5651	AACAGATGGA	ACAGCTGAAT	ATGGGCCAAA	CAGGATATCT	GTGGTAAGCA
	TTGTCTACCT	TGTCGACTTA	TACCCGGTTT	GTCCTATAGA	CACCATTTCGT

5701	G TTCCTGCCC	C GGCTCAGGG	C CAAGAACAG	A TGGAACAGC	T GAATATGGG
	C AAGGACGGG	G CCGAGTCCC	G GTTCTTGTC	T ACCTTGTCG	A CTTATACCC

5751	C CAAACAGGA	T ATCTGTGGT	A AGCAGTTCC	T GCCCCGGCT	C AGGGCCAAG
	G GTTTGTCCT	A TAGACACCA	T TCGTCAAGG	A CGGGGGCCGA	G TCCCGGTTC

5801	A ACAGATGGT	C CCCAGATGC	G GTCCAGCCC	T CAGCAGTTT	C TAGAGAACC
	T TGTCTACCA	G GGGTCTACG	C CAGGTCGGG	A GTCGTCAAA	G ATCTCTTGG

5851	A TCAGATGTT	T CCAGGGTGC	C CCAAGGACC	T GAAATGACC	C TGTGCCTTA
	T AGTCTACAA	A AGGTCCCACG	G GGTTCCTGG	A CTTTACTGG	G ACACGGAAT

5901	T TTGAACTAA	C CAATCAGTT	C GCTTCTCGC	T TCTGTTCGC	G CGCTTCTGC
	A AACTTGATT	G GTTAGTCAA	G CGAAGAGCG	A AGACAAGCG	C CGCAAGACG

5951	T CCCCCGAGCT	C AATAAAAAGA	G CCCACAACC	C CTCACTCGG	G GCGCCAGTC
	A GGGGCTCGA	G TTATTTTCT	C GGGTGTTGG	G GAGTGAGCC	C CGCGGTCAG

6001	C TCCGATTGA	C TGAGTCGCC	C GGGTACCCG	T GTATCCAAT	A AACCCCTCT
	G AGGCTAACT	G ACTCAGCGG	G CCCATGGGC	A CATAGGTTA	T TTGGGAGAA

6051	G CAGTTGCAT	C CGACTTG TG	G TCTCGCTGT	T CTTGGGAG	G GTCTCCTCT
	C GTCAACGTA	G GCTGAACAC	C AGAGCGACA	A AGGAACCCTC	C CAGAGGAGA

6101	G AGTGATTGA	C TACCCGTCA	G CGGGGGTCT	T TCATTTCATG	C AGCATGTAT
	C TCACTAACT	G ATGGGCAGT	C GCCCCCAGA	A AGTAAGTAC	G TCGTACATA

6151	C AAAATTAAT	T TGTTTTTTT	T TCTTAAGTA	T TTACATTAA	A ATGGCCATAG
	G TTTTAATTA	A ACCAAAAAA	A AGAATTCAT	A AATGTAATT	T ACCGGTATC

6201	T TGCATTAAT	G AATCGGCCA	A CGCGCGGGG	A GAGGCGGTT	T GCGTATTGG
	A ACGTAATTA	C TTAGCCGGT	T GCGCGCCCC	T TCCGCCAA	A ACGCATAACC

6251	C GCTCTTCCG	C TTCCTCGCT	C ACTGACTCG	C TGCGCTCGG	T CGTTCGGCT
	G CGAGAAGGC	G AAGGAGCGA	G TGACTGAGC	G GACGCGAGCC	A GCAAGCCGA

6301	G CGGCGAGCG	G TATCAGCTC	A CTCAAAGGC	G GTAATACGG	T TATCCACAG
	C GCCGCTCGC	C ATAGTCGAG	T GAGTTTCCG	C CATTATGCC	A ATAGGTGTC

6351	A ATCAGGGGA	T AACGCAGGA	A AGAACATGT	G AGCAAAAGG	C CAGCAAAAG
	T TAGTCCCCT	A TTGCGTCCT	T TCTTGTACA	C TCGTTTTCC	G GTCGTTTTT

6401	G CCAGGAACC	G TAAAAAGGC	C GCGTTGCTG	G CGTTTTTCC	A ATAGGCTCCG
	C GGTCCCTTG	C ATTTTTTCCG	G CGCAACGAC	C GCAAAAAGG	T ATCCGAGGC

6451	C CCCCCCTGAC	G AGCATCACA	A AAATCGACG	C TCAAGTCAG	A AGGTGGCGAA
	G GGGGGGACTG	C TCGTAGTGT	T TTTAGCTGC	G AGTTCAGTC	T CCACCGCTT

6501	A CCGGACAGG	A CTATAAAGA	T ACCAGGCGT	T TCCCCCTGG	A AGCTCCCTC
	T GGGCTGTCC	T GATATTTCT	A TGGTCCGCA	A AGGGGGACC	T TCGAGGGAG

6551	G TGCGCTCTC	C TGTTCCGAC	C CTGCCGCTT	A ACCGGATACC	T GTCCGCCTT
	C ACGCGAGAG	G ACAAGGCTG	G GACGGCGAA	T TGGCCTATGG	A ACAGGCGGAA

6601	T CTCCCTTCG	G GAAGCGTGG	C GCTTTCTCA	T AGCTCACGC	T GTAGGTATC
	A GAGGGAAGC	C CTTTCGCACC	G CGAAAGAGT	A TCGAGTGCG	A CATCCATAG

6651 TCAGTTCGGT GTAGGTCGTT CGCTCCAAGC TGGGCTGTGT GCACGAACCC
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6701 CCCGTTTCAGC CCGACCGCTG CGCCTTATCC GGTAACATATC GTCTTGAGTC
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6751 CAACCCGGTA AGACACGACT TATCGCCACT GGCAGCAGCC ACTGGTAACA
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6951 AACAAACCAC CGCTGGTAGC GGTGGTTTTT TTGTTTGCAA GCAGCAGATT
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7001 ACGCGCAGAA AAAAAGGATC TCAAGAAGAT CCTTTGATCT TTTCTACGGG
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7051 GTCTGACGCT CAGTGGAACG AAAACTCACG TTAAGGGATT TTGGTCATGA
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7101 GATTATCAAA AAGGATCTTC ACCTAGATCC TTTTAAATTA AAAATGAAGT
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7151 TTGCGGCCGC AAATCAATCT AAAGTATATA TGAGTAAACT TGGTCTGACA
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7201 GTTACCAATG CTTAATCAGT GAGGCACCTA TCTCAGCGAT CTGTCTATTT
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7251 CGTTCATCCA TAGTTGCCTG ACTCCCCGTC GTGTAGATAA CTACGATACG
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7301 GGAGGGGCTTA CCATCTGGCC CCAGTGCTGC AATGATACCG CGAGACCCAC
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7351 GCTCACCAGC TCCAGATTTA TCAGCAATAA ACCAGCCAGC CGGAAGGGCC
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7401 GAGCGCAGAA GTGGTCCTGC AACTTTATCC GCCTCCATCC AGTCTATTAA
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7451 TTGTTGCCGG GAAGCTAGAG TAAGTAGTTC GCCAGTTAAT AGTTTGCGCA
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7501 ACGTTGTTGC CATTGCTACA GGCATCGTGG TGTCACGCTC GTCGTTTGGT
TGCAACAACG GTAACGATGT CCGTAGCACC ACAGTGCGAG CAGCAAACCA

7551 ATGGCTTCAT TCAGCTCCGG TTCCCAACGA TCAAGGCGAG TTACATGATC
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 8151 CAAATAGGGG TTCCGCGCAC ATTTT
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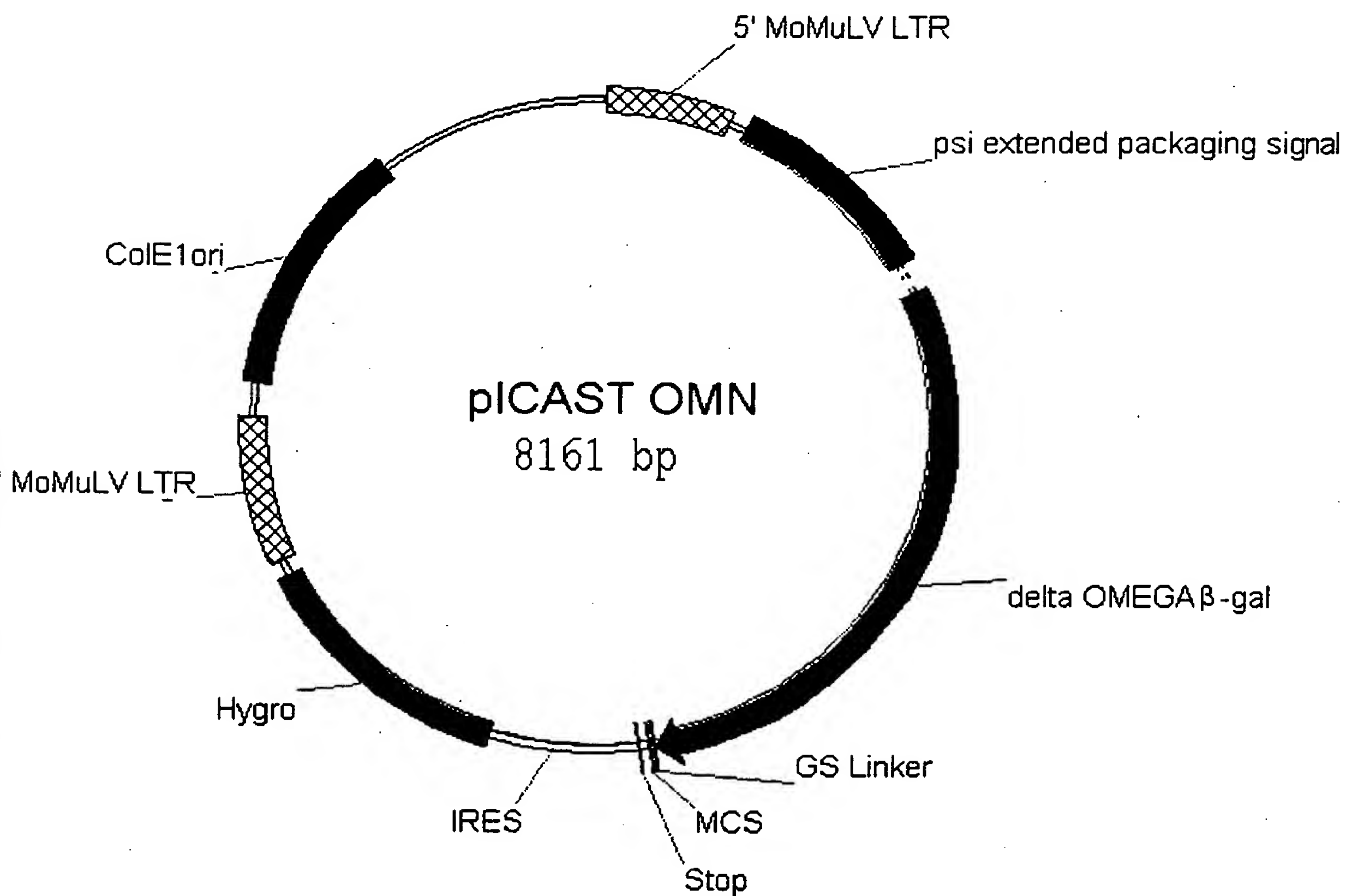


Figure 13A

1	CTGCAGCCTG	AATATGGGCC	AAACAGGATA	TCTGTGGTAA	GCAGTTCCTG
	GACGTCGGAC	TTATACCCGG	TTTGTCTTAT	AGACACCATT	CGTCAAGGAC

51	CCCCGGCTCA	GGGCCAAGAA	CAGATGGAAC	AGCTGAATAT	GGGCCAAACA
	GGGGCCGAGT	CCCGGTTCTT	GTCTACCTTG	TCGACTTATA	CCCGGTTTGT

101	GGATATCTGT	GGTAAGCAGT	TCCTGCCCCG	GCTCAGGGCC	AAGAACAGAT
	CCTATAGACA	CCATTTCGTCA	AGGACGGGGC	CGAGTCCCGG	TTCTTGTCTA

151	GGTCCCCAGA	TGCGGTCCAG	CCCTCAGCAG	TTTCTAGAGA	ACCATCAGAT
	CCAGGGGTCT	ACGCCAGGTC	GGGAGTCGTC	AAAGATCTCT	TGGTAGTCTA

201	GTTTCCAGGG	TGCCCCAAGG	ACCTGAAATG	ACCCTGTGCC	TTATTTGAAC
	CAAAGGTCCC	ACGGGGTTCC	TGGACTTTAC	TGGGACACGG	AATAAACTTG

251	TAACCAATCA	GTTTCGTTCT	CGCTTCTGTT	CGCGCGCTTC	TGCTCCCCGA
	ATTGGTTAGT	CAAGCGAAGA	GCGAAGACAA	GCGCGCGAAG	ACGAGGGGCT

301	GCTCAATAAA	AGAGCCCACA	ACCCCTCACT	CGGGGCGCCA	GTCCTCCGAT
	CGAGTTATTT	TCTCGGGTGT	TGGGGAGTGA	GCCCCGCGGT	CAGGAGGCTA

351	TGACTGAGTC	GCCCCGGTAC	CCGTGTATCC	AATAAACCCCT	CTTGCAGTTG
	ACTGACTCAG	CGGGCCCATG	GGCACATAGG	TTATTTGGGA	GAACGTCAAC

401	CATCCGACTT	GTGGTCTCGC	TGTTCCTTGG	GAGGGTCTCC	TCTGAGTGAT
	GTAGGCTGAA	CACCAGAGCG	ACAAGGAACC	CTCCAGAGG	AGACTCACTA

451	TGACTACCCG	TCAGCGGGGG	TCTTTCATTT	GGGGGCTCGT	CCGGGATCGG
	ACTGATGGGC	AGTCGCCCCC	AGAAAGTAAA	CCCCCGAGCA	GGCCCTAGCC

501	GAGACCCCTG	CCCAGGGACC	ACCGACCCAC	CACCGGGAGG	CAAGCTGGCC
	CTCTGGGGAC	GGGTCCCTGG	TGGCTGGGTG	GTGGCCCTCC	GTTTCGACCG

551	AGCAACTTAT	CTGTGTCTGT	CCGATTGTCT	AGTGTCTATG	ACTGATTTTA
	TCGTTGAATA	GACACAGACA	GGCTAACAGA	TCACAGATAC	TGACTAAAT

601	TGCGCCTGCG	TCGGTACTAG	TTAGCTAACT	AGCTCTGTAT	CTGGCGGACC
	ACGCGGACGC	AGCCATGATC	AATCGATTGA	TCGAGACATA	GACCGCCTGG

651	CGTGGTGGAA	CTGACGAGTT	CTGAACACCC	GGCCGCAACC	CTGGGAGACG
	GCACCACCTT	GA CTGCTCAA	GACTTGTGGG	CCGGCGTTGG	GACCCTCTGC

701	TCCCAGGGAC	TTTGGGGGCC	GTTTTTGTGG	CCCGACCTGA	GGAAGGGAGT
	AGGGTCCCTG	AAACCCCGG	CAAAAACACC	GGGCTGGACT	CCTTCCCTCA

751	CGATGTGGAA	TCCGACCCCG	TCAGGATATG	TGGTTCTGGT	AGGAGACGAG
	GCTACACCTT	AGGCTGGGGC	AGTCCTATAC	ACCAAGACCA	TCCTCTGCTC

801	AACCTAAAAC	AGTTCCCGCC	TCCGTCTGAA	TTTTTGCTTT	CGGTTTGGAA
	TTGGATTTTG	TCAAGGGCGG	AGGCAGACTT	AAAAACGAAA	GCCAAACCTT

851	CCGAAGCCGC	GCGTCTTGTC	TGCTGCAGCA	TCGTTCTGTG	TTGTCTCTGT
	GGCTTCGGCG	CGCAGAACAG	ACGACGTCGT	AGCAAGACAC	AACAGAGACA

901	CTGACTGTGT	TTCTGTATTT	GTCTGAAAAT	TAGGGCCAGA	CTGTTACCAC
	GACTGACACA	AAGACATAAA	CAGACTTTTA	ATCCCGGTCT	GACAATGGTG

FIGURE 13B

951	TCCCTTAAGT	TTGACCTTAG	GTAACCTGGAA	AGATGTCGAG	CGGCTCGCTC
	AGGGAATTCA	AACTGGAATC	CATTGACCTT	TCTACAGCTC	GCCGAGCGAG

1001	ACAACCAGTC	GGTAGATGTC	AAGAAGAGAC	GTTGGGTTAC	CTTCTGCTCT
	TGTTGGTCAG	CCATCTACAG	TTCTTCTCTG	CAACCCAATG	GAAGACGAGA

1051	GCAGAATGGC	CAACCTTTAA	CGTCGGATGG	CCGCGAGACG	GCACCTTTAA
	CGTCTTACCG	GTTGGAAATT	GCAGCCTACC	GGCGCTCTGC	CGTGGAAATT

1101	CCGAGACCTC	ATCACCCAGG	TTAAGATCAA	GGTCTTTTCA	CCTGGCCCCG
	GGCTCTGGAG	TAGTGGGTCC	AATTCTAGTT	CCAGAAAAGT	GGACCGGGCG

1151	ATGGACACCC	AGACCAGGTC	CCCTACATCG	TGACCTGGGA	AGCCTTGGCT
	TACCTGTGGG	TCTGGTCCAG	GGGATGTAGC	ACTGGACCCT	TCGGAACCGA

1201	TTTGACCCCC	CTCCCTGGGT	CAAGCCCTTT	GTACACCCTA	AGCCTCCGCC
	AAACTGGGGG	GAGGGACCCA	GTTGCGGAAA	CATGTGGGAT	TCGGAGGCGG

1251	TCCTCTTCCT	CCATCCGCCC	CGTCTCTCCC	CCTTGAACCT	CCTCGTTCTGA
	AGGAGAAGGA	GGTAGGCGGG	GCAGAGAGGG	GGAACCTTGA	GGAGCAAGCT

1301	CCCCGCCTCG	ATCCTCCCTT	TATCCAGCCC	TCACTCCTTC	TCTAGGCGCC
	GGGGCGGAGC	TAGGAGGGAA	ATAGGTCGGG	AGTGAGGAAG	AGATCCGCGG

1351	GGCCGCTCTA	GCCCATTAAT	ACGACTCACT	ATAGGGCGAT	TCGAACACCA
	CCGGCGAGAT	CGGGTAATTA	TGCTGAGTGA	TATCCCGCTA	AGCTTGTGGT

1401	TGCACCATCA	TCATCATCAC	GTCGACGAAC	AGAAACTCAT	TTCCGAAGAA
	ACGTGGTAGT	AGTAGTAGTG	CAGCTGCTTG	TCTTTGAGTA	AAGGCTTCTT

1451	GACCTACTCG	AGATGGGCGT	GATTACGGAT	TCACTGGCCG	TCGTTTTACA
	CTGGATGAGC	TCTACCCGCA	CTAATGCCTA	AGTGACCGGC	AGCAAAATGT

1501	ACGTCGTGAC	TGGGAAAACC	CTGGCGTTAC	CCAACTTAAT	CGCCTTGCAG
	TGCAGCACTG	ACCCTTTTGG	GACCGCAATG	GGTTGAATTA	GCGGAACGTC

1551	CACATCCCCC	TTTCGCCAGC	TGGCGTAATA	GCGAAGAGGC	CCGCACCGAT
	GTGTAGGGGG	AAAGCGGTCT	ACCGCATTAT	CGCTTCTCCG	GGCGTGGCTA

1601	CGCCCTTCCC	AACAGTTACG	CAGCCTGAAT	GGCGAATGGC	GCTTTGCCTG
	GCGGGAAGGG	TTGTCAATGC	GTCGGACTTA	CCGCTTACCG	CGAAACGGAC

1651	GTTTCCGGCA	CCAGAAGCGG	TGCCGGAAAG	CTGGCTGGAG	TGCGATCTTC
	CAAAGGCCGT	GGTCTTCGCC	ACGGCCTTTC	GACCGACCTC	ACGCTAGAAG

1701	CTGAGGCCGA	TACTGTCGTC	GTCCCCTCAA	ACTGGCAGAT	GCACGGTTAC
	GACTCCGGCT	ATGACAGCAG	CAGGGGAGTT	TGACCGTCTA	CGTGCCAATG

1751	GATGCGCCCA	TCTACACCAA	CGTGACCTAT	CCCATTACGG	TCAATCCGCC
	CTACGCGGGT	AGATGTGGTT	GCACTGGATA	GGGTAATGCC	AGTTAGGCGG

1801	GTTTGTTCCC	ACGGAGAATC	CGACGGGTTG	TTACTCGCTC	ACATTTAATG
	CAAACAAGGG	TGCCTCTTAG	GCTGCCCAAC	AATGAGCGAG	TGTAAATTAC

1851	TTGATGAAAG	CTGGCTACAG	GAAGGCCAGA	CGCGAATTAT	TTTTGATGGC
	AACTACTTTC	GACCGATGTC	CTTCCGGTCT	GCGCTTAATA	AAAACACCG

1901	GTAACTCGG CAATTGAGCC	CGTTTCATCT GCAAAGTAGA	GTGGTGCAAC CACCACGTTG	GGGCGCTGGG CCCGCGACCC	TCGGTTACGG AGCCAATGCC

1951	CCAGGACAGT GGTCCTGTCA	CGTTTGCCGT GCAAACGGCA	CTGAATTTGA GACTTAAACT	CCTGAGCGCA GGACTCGCGT	TTTTTACGCG AAAAATGCGC

2001	CCGGAGAAAA GGCCTCTTTT	CCGCCTCGCG GGCGGAGCGC	GTGATGGTGC CACTACCACG	TGCGCTGGAG ACGCGACCTC	TGACGGCAGT ACTGCCGTCA

2051	TATCTGGAAG ATAGACCTTC	ATCAGGATAT TAGTCCTATA	GTGGCGGATG CACCGCCTAC	AGCGGCATTT TCGCCGTAAA	TCCGTGACGT AGGCACTGCA

2101	CTCGTTGCTG GAGCAACGAC	CATAAACCGA GTATTTGGCT	CTACACAAAT GATGTGTTTA	CAGCGATTTC GTCGCTAAAG	CATGTTGCCA GTACAACGGT

2151	CTCGCTTTAA GAGCGAAATT	TGATGATTTC ACTACTAAAG	AGCCGCGCTG TCGGCGCGAC	TACTGGAGGC ATGACCTCCG	TGAAGTTCAG ACTTCAAGTC

2201	ATGTGCGGCG TACACGCCGC	AGTTGCGTGA TCAACGCACT	CTACCTACGG GATGGATGCC	GTAACAGTTT CATTGTCAAA	CTTTATGGCA GAAATACCGT

2251	GGGTGAAACG CCCACCTTGC	CAGGTCGCCA GTCCAGCGGT	GCGGCACCGC CGCCGTGGCG	GCCTTTCGGC CGGAAAGCCG	GGTGAAATTA CCACTTTAAT

2301	TCGATGAGCG AGCTACTCGC	TGGTGGTTAT ACCACCAATA	GCCGATCGCG CGGCTAGCGC	TCACACTACG AGTGTGATGC	TCTGAACGTC AGACTTGCAG

2351	GAAAACCCGA CTTTTGGGCT	AACTGTGGAG TTGACACCTC	CGCCGAAATC GCGGCTTTAG	CCGAATCTCT GGCTTAGAGA	ATCGTGCGGT TAGCACGCCA

2401	GGTTGAACTG CCAACTTGAC	CACACCGCCG GTGTGGCGGC	ACGGCACGCT TGCCGTGCGA	GATTGAAGCA CTAACTTCGT	GAAGCCTGCG CTTCGGACGC

2451	ATGTCGGTTT TACAGCCAAA	CCGCGAGGTG GGCGCTCCAC	CGGATTGAAA GCCTAACTTT	ATGGTCTGCT TACCAGACGA	GCTGCTGAAC CGACGACTTG

2501	GGCAAGCCGT CCGTTCCGGCA	TGCTGATTCG ACGACTAAGC	AGGCGTTAAC TCCGCAATTG	CGTCACGAGC GCAGTGCTCG	ATCATCCTCT TAGTAGGAGA

2551	GCATGGTCAG CGTACCAGTC	GTCATGGATG CAGTACCTAC	AGCAGACGAT TCGTCTGCTA	GGTGCAGGAT CCACGTCCTA	ATCCTGCTGA TAGGACGACT

2601	TGAAGCAGAA ACTTCGTCTT	CAACTTTAAC GTTGAAATTG	GCCGTGCGCT CGGCACGCGA	GTTTCGCATTA CAAGCGTAAT	TCCGAACCAT AGGCTTGGTA

2651	CCGCTGTGGT GGCGACACCA	ACACGCTGTG TGTGCGACAC	CGACCGCTAC GCTGGCGATG	GGCCTGTATG CCGGACATAC	TGGTGGATGA ACCACCTACT

2701	AGCCAATATT TCGGTTATAA	GAAACCCACG CTTTGGGTGC	GCATGGTGCC CGTACCACGG	AATGAATCGT TACTTAGCA	CTGACCGATG GACTGGCTAC

2751	ATCCGCGCTG TAGGCGCGAC	GCTACCGGCG CGATGGCCGC	ATGAGCGAAC TACTCGCTTG	GCGTAACGCG CGCATTGCGC	AATGGTGCAG TTACCACGTC

2801	CGCGATCGTA GCGCTAGCAT	ATCACCCGAG TAGTGGGCTC	TGTGATCATC ACACTAGTAG	TGGTCGCTGG ACCAGCGACC	GGAATGAATC CCTTACTTAG

2851	AGGCCACGGC	GCTAATCACG	ACGCGCTGTA	TCGCTGGATC	AAATCTGTCTG
	TCCGGTGCCG	CGATTAGTGC	TGCGCGACAT	AGCGACCTAG	TTTAGACAGC

2901	ATCCTTCCCG	CCCGGTGCAG	TATGAAGGCG	GCGGAGCCGA	CACCACGGCC
	TAGGAAGGGC	GGGCCACGTC	ATACTTCCGC	CGCCTCGGCT	GTGGTGCCGG

2951	ACCGATATTA	TTTGCCCGAT	GTACGCGCGC	GTGGATGAAG	ACCAGCCCTT
	TGGCTATAAT	AAACGGGCTA	CATGCGCGCG	CACCTACTTC	TGGTCGGGAA

3001	CCCGGCTGTG	CCGAAATGGT	CCATCAAAAA	ATGGCTTTTCG	CTACCTGGAG
	GGGCCGACAC	GGCTTTACCA	GGTAGTTTTT	TACCGAAAGC	GATGGACCTC

3051	AGACGCGCCC	GCTGATCCTT	TGCGAATACG	CCCACGCGAT	GGGTAACAGT
	TCTGCGCGGG	CGACTAGGAA	ACGCTTATGC	GGGTGCGCTA	CCCATTGTCA

3101	CTTGCGGGTT	TCGCTAAATA	CTGGCAGGCG	TTTCGTCAGT	ATCCCCGTTT
	GAACCGCCAA	AGCGATTTAT	GACCGTCCGC	AAAGCAGTCA	TAGGGGCAAA

3151	ACAGGGCGGC	TTCGTCTGGG	ACTGGGTGGA	TCAGTCGCTG	ATTAAATATG
	TGTCCCGCCG	AAGCAGACCC	TGACCCACCT	AGTCAGCGAC	TAATTTATAC

3201	ATGAAAACGG	CAACCCGTGG	TCGGCTTACG	GCGGTGATTT	TGGCGATACG
	TACTTTTGCC	GTTGGGCACC	AGCCGAATGC	CGCCACTAAA	ACCGCTATGC

3251	CCGAACGATC	GCCAGTTCTG	TATGAACGGT	CTGGTCTTTG	CCGACCGCAC
	GGCTTGCTAG	CGGTCAAGAC	ATACTTGCCA	GACCAGAAAC	GGCTGGCGTG

3301	GCCGCATCCA	GCGCTGACGG	AAGCAAAACA	CCAGCAGCAG	TTTTTCCAGT
	CGGCGTAGGT	CGCGACTGCC	TTCGTTTTGT	GGTCGTCGTC	AAAAAGGTCA

3351	TCCGTTTATC	CGGGCAAACC	ATCGAAGTGA	CCAGCGAATA	CCTGTTCCGT
	AGGCAAATAG	GCCCGTTTGG	TAGCTTCACT	GGTCGCTTAT	GGACAAGGCA

3401	CATAGCGATA	ACGAGCTCCT	GCACTGGATG	GTGGCGCTGG	ATGGTAAGCC
	GTATCGCTAT	TGCTCGAGGA	CGTGACCTAC	CACCGCGACC	TACCATTTCGG

3451	GCTGGCAAGC	GGTGAAGTGC	CTCTGGATGT	CGCTCCACAA	GGTAAACAGT
	CGACCGTTTCG	CCACTTCACG	GAGACCTACA	GCGAGGTGTT	CCATTTGTCA

3501	TGATTGAACT	GCCTGAACTA	CCGCAGCCGG	AGAGCGCCGG	GCAACTCTGG
	ACTAACTTGA	CGGACTTGAT	GGCGTCGGCC	TCTCGCGGCC	CGTTGAGACC

3551	CTCACAGTAC	GCGTAGTGCA	ACCGAACGCG	ACCGCATGGT	CAGAAGCCGG
	GAGTGTCATG	CGCATCACGT	TGGCTTGCGC	TGGCGTACCA	GTCTTCGGCC

3601	GCACATCAGC	GCCTGGCAGC	AGTGGCGTCT	GGCGGAAAAC	CTCAGTGTGA
	CGTGTAGTCG	CGGACCGTCG	TCACCGCAGA	CCGCCTTTTG	GAGTCACACT

3651	CGCTCCCCGC	CGCGTCCCAC	GCCATCCCCG	ATCTGACCAC	CAGCGAAATG
	GCGAGGGGGC	GCGCAGGGTG	CGGTAGGGCG	TAGACTGGTG	GTCGCTTTAC

3701	GATTTTTGCA	TCGAGCTGGG	TAATAAGCGT	TGGCAATTTA	ACCGCCAGTC
	CTAAAAACGT	AGCTCGACCC	ATTATTTCGA	ACCGTTAAAT	TGGCGGTCAG

3751	AGGCTTTCTT	TCACAGATGT	GGATTGGCGA	TAAAAAACAA	CTGCTGACGC
	TCCGAAAGAA	AGTGTCTACA	CCTAACCGCT	ATTTTTTGTT	GACGACTGCG

3801	CGCTGCGCGA	TCAGTTCACC	CGTGTCGATA	GATCTGGAGG	TGGTGGCAGC
	GCGACGCGCT	AGTCAAGTGG	GCACAGCTAT	CTAGACCTCC	ACCACCGTCG

3851	AGGCCTTGGC	GCGCCGGATC	CTTAATTAAC	AATTGACCGG	TAATAATAGG
	TCCGGAACCG	CGCGGCCTAG	GAATTAATTG	TTAACTGGCC	ATTATTATCC

3901	TAGATAAGTG	ACTGATTAGA	TGCATTTCTGA	CTAGATCCCT	CGACCAATTC
	ATCTATTAC	TGACTAATCT	ACGTAAAGCT	GATCTAGGGA	GCTGGTTAAG

3951	CGGTTATTTT	CCACCATATT	GCCGTCTTTT	GGCAATGTGA	GGGCCCCGAA
	GCCAATAAAA	GGTGGTATAA	CGGCAGAAAA	CCGTTACACT	CCCGGGCCTT

4001	ACCTGGCCCT	GTCTTCTTGA	CGAGCATTCC	TAGGGGTCTT	TCCCCTCTCG
	TGGACCGGGA	CAGAAGAACT	GCTCGTAAGG	ATCCCCAGAA	AGGGGAGAGC

4051	CCAAAGGAAT	GCAAGGTCTG	TTGAATGTCTG	TGAAGGAAGC	AGTTCCTCTG
	GGTTTCCTTA	CGTTCAGAC	AACTTACAGC	ACTTCCTTCG	TCAAGGAGAC

4101	GAAGCTTCTT	GAAGACAAAC	AACGTCTGTA	GCGACCCTTT	GCAGGCAGCG
	CTTCGAAGAA	CTTCTGTTTG	TTGCAGACAT	CGCTGGGAAA	CGTCCGTCGC

4151	GAACCCCCCA	CCTGGCGACA	GGTGCCTCTG	CGGCCAAAAG	CCACGTGTAT
	CTTGGGGGGT	GGACCGCTGT	CCACGGAGAC	GCCGGTTTTC	GGTGCACATA

4201	AAGATACACC	TGCAAAGGCG	GCACAACCCC	AGTGCCACGT	TGTGAGTTGG
	TTCTATGTGG	ACGTTTCCGC	CGTGTGTTGGG	TCACGGTGCA	ACACTCAACC

4251	ATAGTTGTGG	AAAGAGTCAA	ATGGCTCTCC	TCAAGCGTAT	TCAACAAGGG
	TATCAACACC	TTTCTCAGTT	TACCGAGAGG	AGTTCGCATA	AGTTGTTCCC

4301	GCTGAAGGAT	GCCCAGAAGG	TACCCCATTG	TATGGGATCT	GATCTGGGGC
	CGACTTCCTA	CGGGTCTTCC	ATGGGGTAAC	ATACCCTAGA	CTAGACCCCG

4351	CTCGGTGCAC	ATGCTTTACA	TGTGTTTAGT	CGAGGTTAAA	AAACGTCTAG
	GAGCCACGTG	TACGAAATGT	ACACAAATCA	GCTCCAATTT	TTTGCAGATC

4401	GCCCCCGGAA	CCACGGGGAC	GTGGTTTTTC	TTTGAAAAAC	ACGATGATAA
	CGGGGGGCTT	GGTGCCCCCTG	CACCAAAAGG	AAACTTTTTG	TGCTACTATT

4451	TACCATGAAA	AAGCCTGAAC	TCACCGCGAC	GTCTGTCGAG	AAGTTTCTGA
	ATGGTACTTT	TTCGGACTTG	AGTGGCGCTG	CAGACAGCTC	TTCAAAGACT

4501	TCGAAAAGTT	CGACAGCGTC	TCCGACCTGA	TGCAGCTCTC	GGAGGGCGAA
	AGCTTTTCAA	GCTGTGCGAG	AGGCTGGACT	ACGTCGAGAG	CCTCCCGCTT

4551	GAATCTCGTG	CTTTCAGCTT	CGATGTAGGA	GGGCGTGGAT	ATGTCCTGCG
	CTTAGAGCAC	GAAAGTCGAA	GCTACATCCT	CCCGCACCTA	TACAGGACGC

4601	GGTAAATAGC	TGCGCCGATG	GTTTCTACAA	AGATCGTTAT	GTTTATCGGC
	CCATTTATCG	ACGCGGCTAC	CAAAGATGTT	TCTAGCAATA	CAAATAGCCG

4651	ACTTTGCATC	GGCCGCGCTC	CCGATTCCGG	AAGTGCTTGA	CATTGGGGAA
	TGAAACGTAG	CCGGCGCGAG	GGCTAAGGCC	TTCACGAACT	GTAACCCCTT

4701	TTTAGCGAGA	GCCTGACCTA	TTGCATCTCC	CGCCGTGCAC	AGGGTGTCAC
	AAATCGCTCT	CGGACTGGAT	AACGTAGAGG	GCGGCACGTG	TCCCACAGTG

4751 GTTGCAAGAC CTGCCTGAAA CCGAACTGCC CGCTGTTCTG CAGCCGGTCC
 CAACGTTCTG GACGGACTTT GGCTTGACGG GCGACAAGAC GTCGGCCAGC

 4801 CGGAGGCCAT GGATGCGATC GCTGCGGCCG ATCTTAGCCA GACGAGCGGG
 GCCTCCGGTA CCTACGCTAG CGACGCCGGC TAGAATCGGT CTGCTCGCCC

 4851 TTCGGCCCAT TCGGACCGCA AGGAATCGGT CAATACACTA CATGGCGTGA
 AAGCCGGGTA AGCCTGGCGT TCCTTAGCCA GTTATGTGAT GTACCGCACT

 4901 TTTCATATGC GCGATTGCTG ATCCCCATGT GTATCACTGG CAAACTGTGA
 AAAGTATACG CGCTAACGAC TAGGGGTACA CATAGTGACC GTTTGACACT

 4951 TGGACGACAC CGTCAGTGCG TCCGTCGCGC AGGCTCTCGA TGAGCTGATG
 ACCTGCTGTG GCAGTCACGC AGGCAGCGCG TCCGAGAGCT ACTCGACTAC

 5001 CTTTGGGCCG AGGACTGCCC CGAAGTCCGG CACCTCGTGC ACGCGGATTT
 GAAACCCGGC TCCTGACGGG GCTTCAGGCC GTGGAGCACG TGCGCCTAAA

 5051 CGGCTCCAAC AATGTCCTGA CGGACAATGG CCGCATAACA GCGGTCATTG
 GCCGAGGTTG TTACAGGACT GCCTGTTACC GCGGTATTGT CGCCAGTAAC

 5101 ACTGGAGCGA GCGGATGTTT GGGGATTCCC AATACGAGGT CGCCAACATC
 TGACCTCGCT CCGCTACAAG CCCCTAAGGG TTATGCTCCA GCGGTTGTAG

 5151 TTCTTCTGGA GGCCGTGGTT GGCTTGTATG GAGCAGCAGA CGCGCTACTT
 AAGAAGACCT CCGGCACCAA CCGAACATAC CTCGTCGTCT GCGCGATGAA

 5201 CGAGCGGAGG CATCCGGAGC TTGCAGGATC GCCGCGGCTC CGGGCGTATA
 GCTCGCCTCC GTAGGCCTCG AACGTCCTAG CCGCGCCGAG GCCCGCATAT

 5251 TGCTCCGCAT TGGTCTTGAC CAACTCTATC AGAGCTTGGT TGACGGCAAT
 ACGAGGCGTA ACCAGAACTG GTTGAGATAG TCTCGAACCA ACTGCCGTTA

 5301 TTCGATGATG CAGCTTGGGC GCAGGGTCGA TCGGACGCAA TCGTCCGATC
 AAGCTACTAC GTCGAACCCG CGTCCCAGCT ACGCTGCGTT AGCAGGCTAG

 5351 CGGAGCCGGG ACTGTCGGGC GTACACAAAT CGCCCGCAGA AGCGCGGCCG
 GCCTCGGCCC TGACAGCCCG CATGTGTTTA GCGGGCGTCT TCGCGCCGGC

 5401 TCTGGACCGA TGGCTGTGTA GAAGTACTCG CCGATAGTGG AAACCGACGC
 AGACCTGGCT ACCGACACAT CTTATGAGC GGCTATCACC TTTGGCTGCG

 5451 CCCAGCACTC GTCCGAGGGC AAAGGAATAG AGTAGATGCC GACCGGGATC
 GGGTCGTGAG CAGGCTCCCG TTTCTTATC TCATCTACGG CTGGCCCTAG

 5501 TATCGATAAA ATAAAAGATT TTATTTAGTC TCCAGAAAAA GGGGGGAATG
 ATAGCTATTT TATTTTCTAA AATAAATCAG AGGTCTTTTT CCCCCTTAC

 5551 AAAGACCCCA CCTGTAGGTT TGGCAAGCTA GCTTAAGTAA CGCCATTTTG
 TTTCTGGGGT GGACATCCAA ACCGTTTCAT CGAATTCATT GCGGTAAAC

 5601 CAAGGCATGG AAAAATACAT AACTGAGAAT AGAGAAGTTC AGATCAAGGT
 GTTCCGTACC TTTTATGTA TTGACTCTTA TCTTTCAAG TCTAGTTCCA

 5651 CAGGAACAGA TGGAACAGCT GAATATGGGC CAAACAGGAT ATCTGTGGTA
 GTCCTTGTCT ACCTTGTCGA CTTATACCCG GTTTGTCCTA TAGACACCAT

5701	AGCAGTTCCT	GCCCCGGCTC	AGGGCCAAGA	ACAGATGGAA	CAGCTGAATA
	TCGTCAAGGA	CGGGGCCGAG	TCCCGGTTCT	TGTCTACCTT	GTCGACTTAT

5751	TGGGCCAAAC	AGGATATCTG	TGGTAAGCAG	TTCCTGCCCC	GGCTCAGGGC
	ACCCGGTTTG	TCCTATAGAC	ACCATTCGTC	AAGGACGGGG	CCGAGTCCCC

5801	CAAGAACAGA	TGGTCCCCAG	ATGCGGTCCA	GCCCTCAGCA	GTTTCTAGAG
	GTTCTTGTCT	ACCAGGGGTC	TACGCCAGGT	CGGGAGTCGT	CAAAGATCTC

5851	AACCATCAGA	TGTTTCCAGG	GTGCCCCAAG	GACCTGAAAT	GACCCTGTGC
	TTGGTAGTCT	ACAAAGGTCC	CACGGGGTTC	CTGGACTTTA	CTGGGACACG

5901	CTTATTTGAA	CTAACCAATC	AGTTCGCTTC	TCGCTTCTGT	TCGCGCGCTT
	GAATAAACTT	GATTGGTTAG	TCAAGCGAAG	AGCGAAGACA	AGCGCGCGAA

5951	CTGCTCCCCG	AGCTCAATAA	AAGAGCCCAC	AACCCCTCAC	TCGGGGCGCC
	GACGAGGGGC	TCGAGTTATT	TTCTCGGGTG	TTGGGGAGTG	AGCCCCGCGG

6001	AGTCCTCCGA	TTGACTGAGT	CGCCCGGGTA	CCCGTGTATC	CAATAAACCC
	TCAGGAGGCT	AACTGACTCA	GCGGGCCCAT	GGGCACATAG	GTTATTTGGG

6051	TCTTGCAGTT	GCATCCGACT	TGTGGTCTCG	CTGTTCCCTG	GGAGGGTCTC
	AGAACGTCAA	CGTAGGCTGA	ACACCAGAGC	GACAAGGAAC	CCTCCCAGAG

6101	CTCTGAGTGA	TTGACTACCC	GTCAGCGGGG	GTCTTTCATT	CATGCAGCAT
	GAGACTCACT	AACTGATGGG	CAGTCGCCCC	CAGAAAGTAA	GTACGTCGTA

6151	GTATCAAAAT	TAATTTGGTT	TTTTTTCTTA	AGTATTTACA	TTAAATGGCC
	CATAGTTTTA	ATTAAACCAA	AAAAAAGAAT	TCATAAATGT	AATTTACCGG

6201	ATAGTTGCAT	TAATGAATCG	GCCAACGCGC	GGGGAGAGGC	GGTTTGCGTA
	TATCAACGTA	ATTACTTAGC	CGGTTGCGCG	CCCCTCTCCG	CCAAACGCAT

6251	TTGGCGCTCT	TCCGCTTCCT	CGCTCACTGA	CTCGCTGCGC	TCGGTCGTTC
	AACCGCGAGA	AGGCGAAGGA	GCGAGTGACT	GAGCGACGCG	AGCCAGCAAG

6301	GGCTGCGGCG	AGCGGTATCA	GCTCACTCAA	AGGCGGTAAT	ACGGTTATCC
	CCGACGCCGC	TCGCCATAGT	CGAGTGAGTT	TCCGCCATTA	TGCCAATAGG

6351	ACAGAATCAG	GGGATAACGC	AGGAAAGAAC	ATGTGAGCAA	AAGGCCAGCA
	TGTCTTAGTC	CCCTATTGCG	TCCTTTCTTG	TACACTCGTT	TTCCGGTCGT

6401	AAAGGCCAGG	AACCGTAAAA	AGGCCGCGTT	GCTGGCGTTT	TTCCATAGGC
	TTTCCGGTCC	TTGGCATT TT	TCCGGCGCAA	CGACCGCAAA	AAGGTATCCG

6451	TCCGCCCCCC	TGACGAGCAT	CACAAAAATC	GACGCTCAAG	TCAGAGGTGG
	AGGCGGGGGG	ACTGCTCGTA	GTGTTTTTAG	CTGCGAGTTC	AGTCTCCACC

6501	CGAAACCCGA	CAGGACTATA	AAGATAACCAG	GCGTTTCCCC	CTGGAAGCTC
	GCTTTGGGCT	GTCCTGATAT	TTCTATGGTC	CGCAAAGGGG	GACCTTCGAG

6551	CCTCGTGCGC	TCTCCTGTTC	CGACCCTGCC	GCTTACCGGA	TACCTGTCCG
	GGAGCACGCG	AGAGGACAAG	GCTGGGACGG	CGAATGGCCT	ATGGACAGGC

6601	CCTTTCTCCC	TTCGGGAAGC	GTGGCGCTTT	CTCATAGCTC	ACGCTGTAGG
	GGAAAGAGGG	AAGCCCTTCG	CACCGCGAAA	GAGTATCGAG	TGCGACATCC

6651	TATCTCAGTT	CGGTGTAGGT	CGTTCGCTCC	AAGCTGGGCT	GTGTGCACGA
	ATAGAGTCAA	GCCACATCCA	GCAAGCGAGG	TTCGACCCGA	CACACGTGCT

6701	ACCCCCCGTT	CAGCCCGACC	GCTGCGCCTT	ATCCGGTAAC	TATCGTCTTG
	TGGGGGGCAA	GTCGGGCTGG	CGACGCGGAA	TAGGCCATTG	ATAGCAGAAC

6751	AGTCCAACCC	GGTAAGACAC	GACTTATCGC	CACTGGCAGC	AGCCACTGGT
	TCAGGTGGG	CCATTCTGTG	CTGAATAGCG	GTGACCGTCG	TCGGTGACCA

6801	AACAGGATTA	GCAGAGCGAG	GTATGTAGGC	GGTGCTACAG	AGTTCTTGAA
	TTGTCCTAAT	CGTCTCGCTC	CATACATCCG	CCACGATGTC	TCAAGAACTT

6851	GTGGTGGCCT	AACTACGGCT	ACACTAGAAG	AACAGTATTT	GGTATCTGCG
	CACCACCGGA	TTGATGCCGA	TGTGATCTTC	TTGTCATAAA	CCATAGACGC

6901	CTCTGCTGAA	GCCAGTTACC	TTCGGAAAAA	GAGTTGGTAG	CTCTTGATCC
	GAGACGACTT	CGGTCAATGG	AAGCCTTTTT	CTCAACCATC	GAGAACTAGG

6951	GGCAAACAAA	CCACCGCTGG	TAGCGGTGGT	TTTTTTGTTT	GCAAGCAGCA
	CCGTTTGTTT	GGTGGCGACC	ATCGCCACCA	AAAAAACAAA	CGTTCGTCGT

7001	GATTACGCGC	AGAAAAAAG	GATCTCAAGA	AGATCCTTTG	ATCTTTTCTA
	CTAATGCGCG	TCTTTTTTTC	CTAGAGTTCT	TCTAGGAAAC	TAGAAAAGAT

7051	CGGGGTCTGA	CGCTCAGTGG	AACGAAAACT	CACGTTAAGG	GATTTTGGTC
	GCCCCAGACT	GCGAGTCACC	TTGCTTTTGA	GTGCAATTCC	CTAAAACCAG

7101	ATGAGATTAT	CAAAAAGGAT	CTTCACCTAG	ATCCTTTTGC	GGCCGCAAAT
	TACTCTAATA	GTTTTTCCTA	GAAGTGGATC	TAGGAAAACG	CCGGCGTTTA

7151	CAATCTAAAG	TATATATGAG	TAAACTTGGT	CTGACAGTTA	CCAATGCTTA
	GTTAGATTTT	ATATATACTC	ATTTGAACCA	GACTGTCAAT	GGTTACGAAT

7201	ATCAGTGAGG	CACCTATCTC	AGCGATCTGT	CTATTTTCGT	CATCCATAGT
	TAGTCACTCC	GTGGATAGAG	TCGCTAGACA	GATAAAGCAA	GTAGGTATCA

7251	TGCCTGACTC	CCCGTCGTGT	AGATAACTAC	GATACGGGAG	GGCTTACCAT
	ACGGACTGAG	GGGCAGCACA	TCTATTGATG	CTATGCCCTC	CCGAATGGTA

7301	CTGGCCCCAG	TGCTGCAATG	ATACCGCGAG	ACCCACGCTC	ACCGGCTCCA
	GACCGGGGTC	ACGACGTTAC	TATGGCGCTC	TGGGTGCGAG	TGGCCGAGGT

7351	GATTTATCAG	CAATAAACCA	GCCAGCCGGA	AGGGCCGAGC	GCAGAAGTGG
	CTAAATAGTC	GTTATTTGGT	CGGTCGGCCT	TCCCGGCTCG	CGTCTTCACC

7401	TCCTGCAACT	TTATCCGCCT	CCATCCAGTC	TATTAATTGT	TGCCGGGAAG
	AGGACGTTGA	AATAGGCGGA	GGTAGGTCAG	ATAATTAACA	ACGGCCCTTC

7451	CTAGAGTAAG	TAGTTCGCCA	GTTAATAGTT	TGCGCAACGT	TGTTGCCATT
	GATCTCATTC	ATCAAGCGGT	CAATTATCAA	ACGCGTTGCA	ACAACGGTAA

7501	GCTACAGGCA	TCGTGGTGTC	ACGCTCGTCG	TTTGGTATGG	CTTCATTTCAG
	CGATGTCCGT	AGCACCACAG	TGCGAGCAGC	AAACCATAAC	GAAGTAAGTC

7551	CTCCGGTTCC	CAACGATCAA	GGCGAGTTAC	ATGATCCCCC	ATGTTGTGCA
	GAGGCCAAGG	GTTGCTAGTT	CCGCTCAATG	TACTAGGGGG	TACAACACGT

7601	AAAAAGCGGT	TAGCTCCTTC	GGTCCTCCGA	TCGTTGTCAG	AAGTAAGTTG
	TTTTTCGCCA	ATCGAGGAAG	CCAGGAGGCT	AGCAACAGTC	TTCATTCAAC

7651	GCCGCAGTGT	TATCACTCAT	GGTTATGGCA	GCACTGCATA	ATTCTCTTAC
	CGGCGTCACA	ATAGTGAGTA	CCAATACCGT	CGTGACGTAT	TAAGAGAATG

7701	TGTCATGCCA	TCCGTAAGAT	GCTTTTCTGT	GACTGGTGAG	TACTCAACCA
	ACAGTACGGT	AGGCATTCTA	CGAAAAGACA	CTGACCACTC	ATGAGTTGGT

7751	AGTCATTCTG	AGAATAGTGT	ATGCGGCGAC	CGAGTTGCTC	TTGCCCCGGCG
	TCAGTAAGAC	TCTTATCACA	TACGCCGCTG	GCTCAACGAG	AACGGGCCCGC

7801	TCAATACGGG	ATAATACCGC	GCCACATAGC	AGAACTTTAA	AAGTGCTCAT
	AGTTATGCCC	TATTATGGCG	CGGTGTATCG	TCTTGAAATT	TTCACGAGTA

7851	CATTGGAAAA	CGTTCTTCGG	GGCGAAAAC	CTCAAGGATC	TTACCGCTGT
	GTAACCTTTT	GCAAGAAGCC	CCGCTTTTGA	GAGTTCCTAG	AATGGCGACA

7901	TGAGATCCAG	TTCGATGTAA	CCCACTCGTG	CACCCAAC	ATCTTCAGCA
	ACTCTAGGTC	AAGCTACATT	GGGTGAGCAC	GTGGGTTGAC	TAGAAGTCGT

7951	TCTTTTACTT	TCACCAGCGT	TTCTGGGTGA	GCAAAAACAG	GAAGGCAAAA
	AGAAAATGAA	AGTGGTCGCA	AAGACCCACT	CGTTTTTGTC	CTTCCGTTTT

8001	TGCCGCAAAA	AAGGGAATAA	GGGCGACACG	GAAATGTTGA	ATACTCATAC
	ACGGCGTTTT	TTCCCTTATT	CCCGCTGTGC	CTTTACAAC	TATGAGTATG

8051	TCTTCCTTTT	TCAATATTAT	TGAAGCATTT	ATCAGGGTTA	TTGTCTCATG
	AGAAGGAAAA	AGTTATAATA	ACTTCGTAAA	TAGTCCCAAT	AACAGAGTAC

8101	AGCGGATACA	TATTTGAATG	TATTTAGAAA	AATAAACAAA	TAGGGGTTCC
	TCGCCTATGT	ATAAACTTAC	ATAAATCTTT	TTATTTGTTT	ATCCCCAAGG

8151	GCGCACATTT	C			
	CGCGTGTA	G			

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T09T10"25T65260

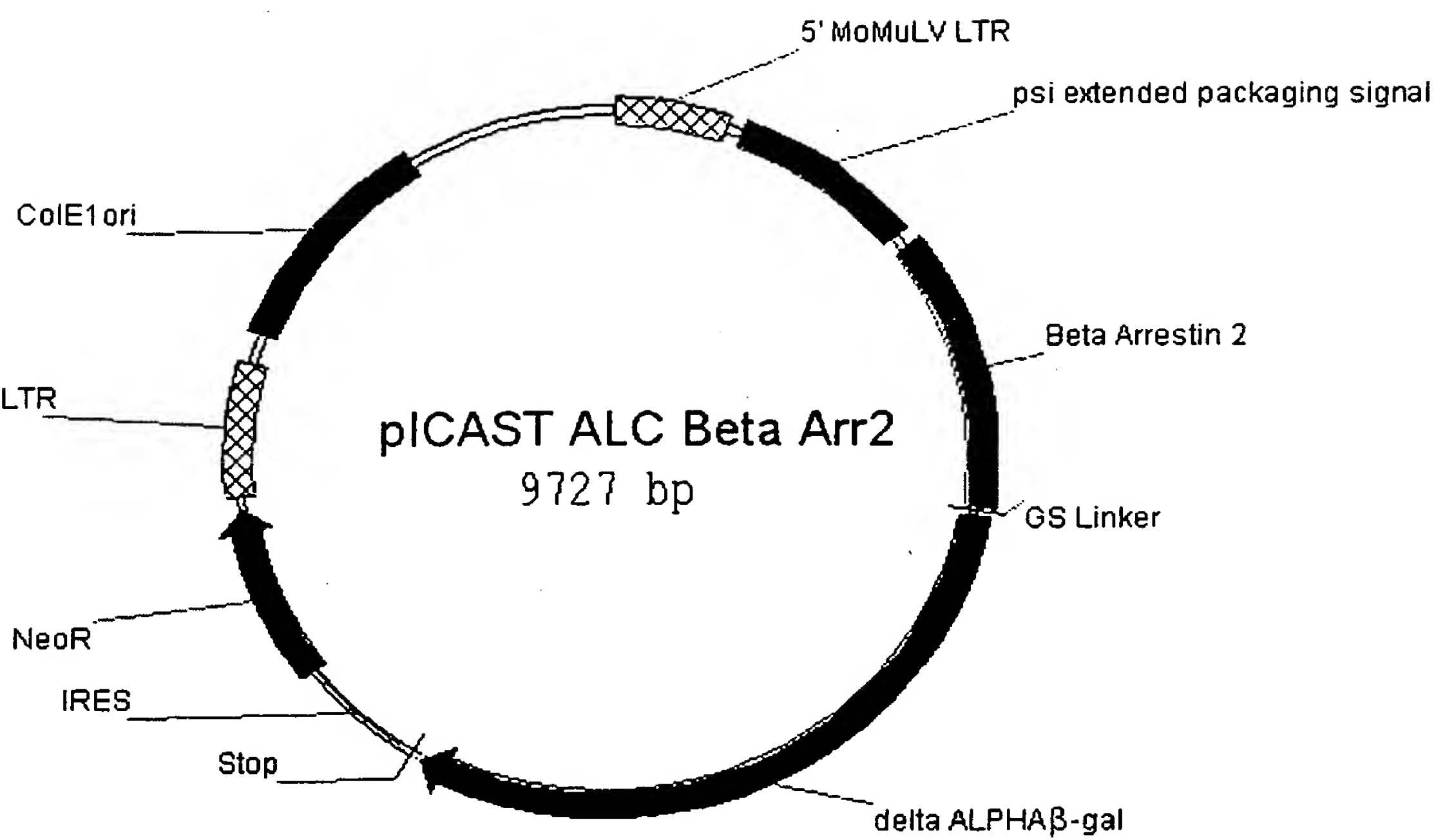


Figure 14

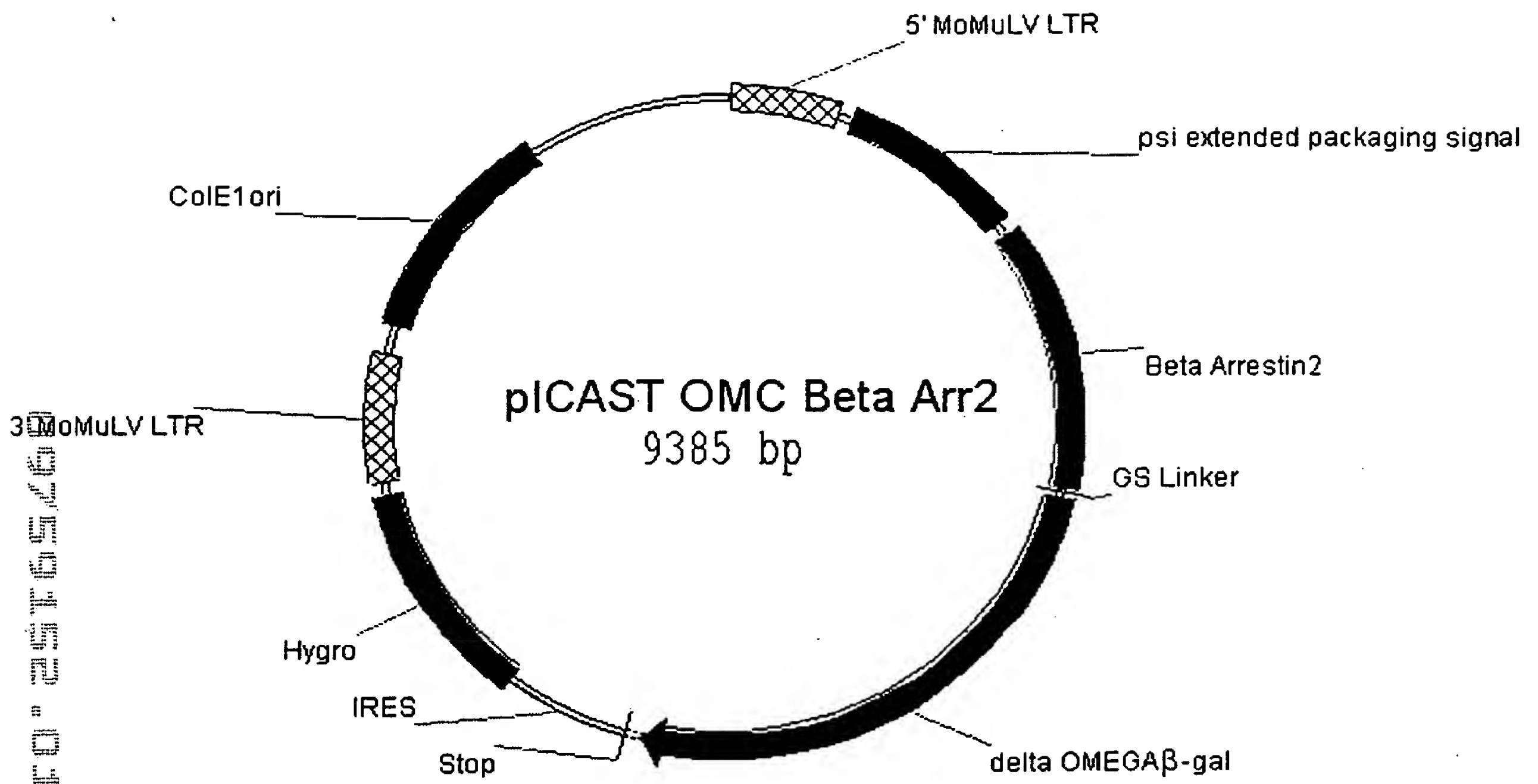


Figure 15

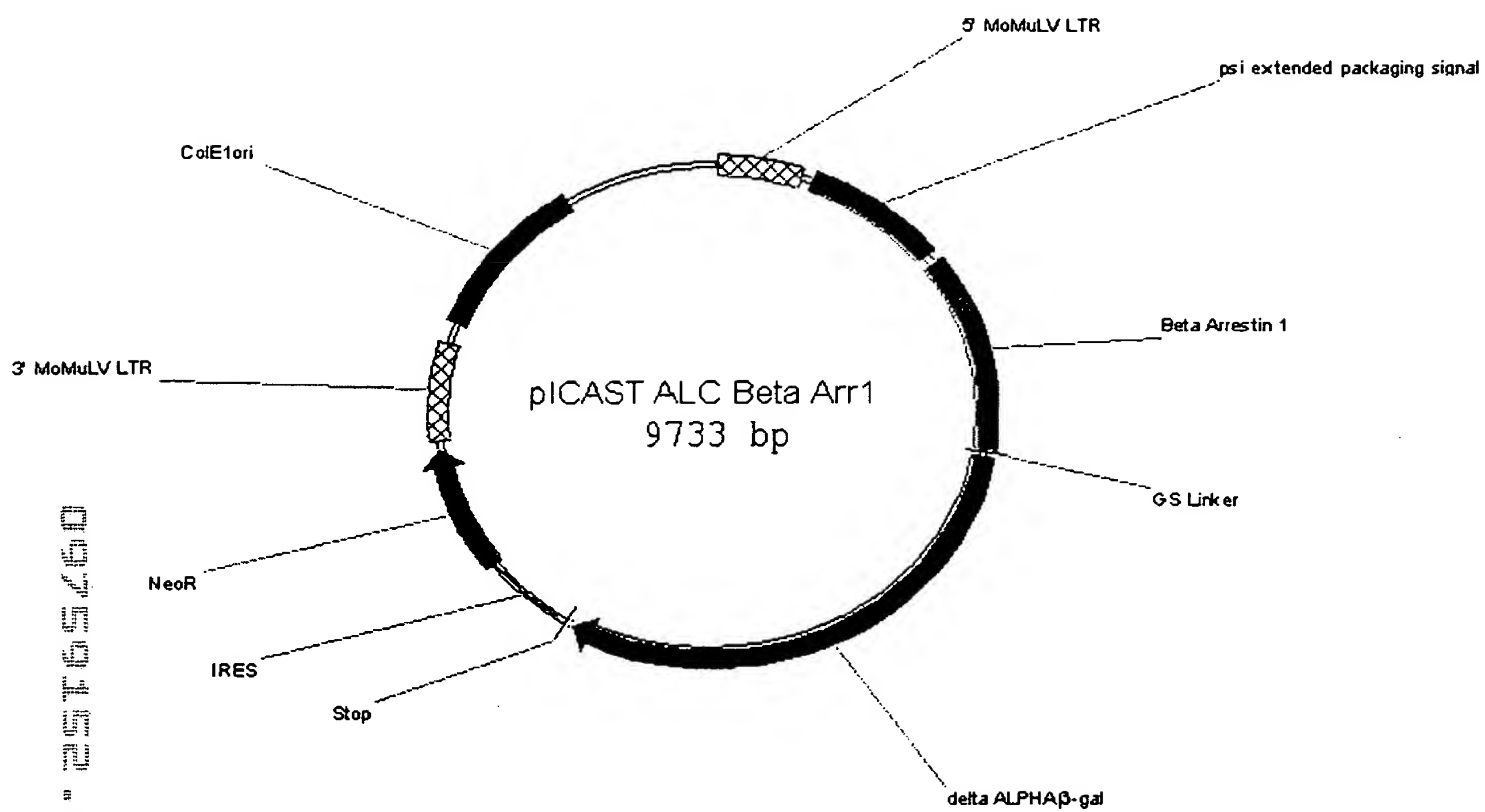


Figure 16

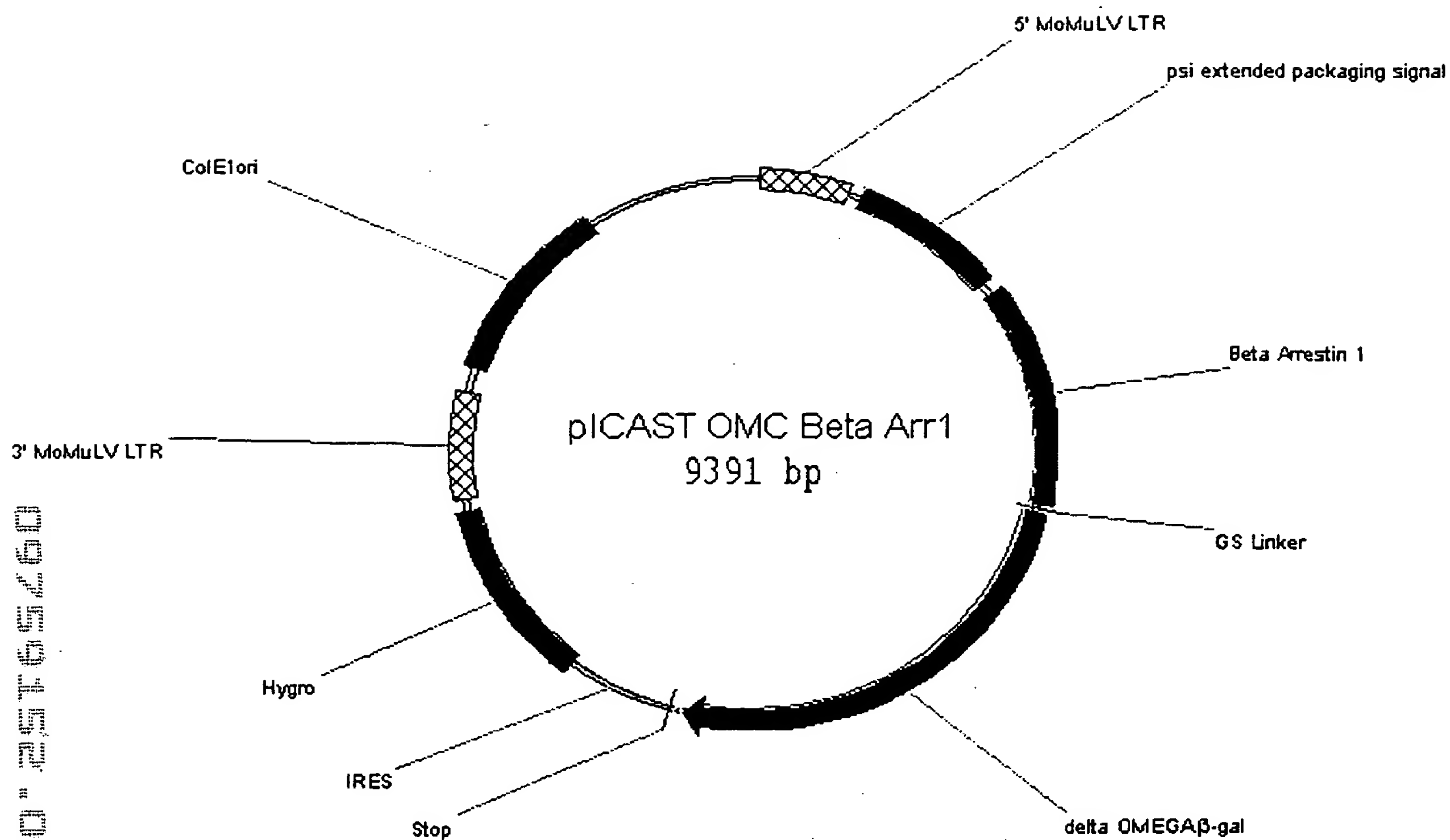


Figure 17

09745-01.001
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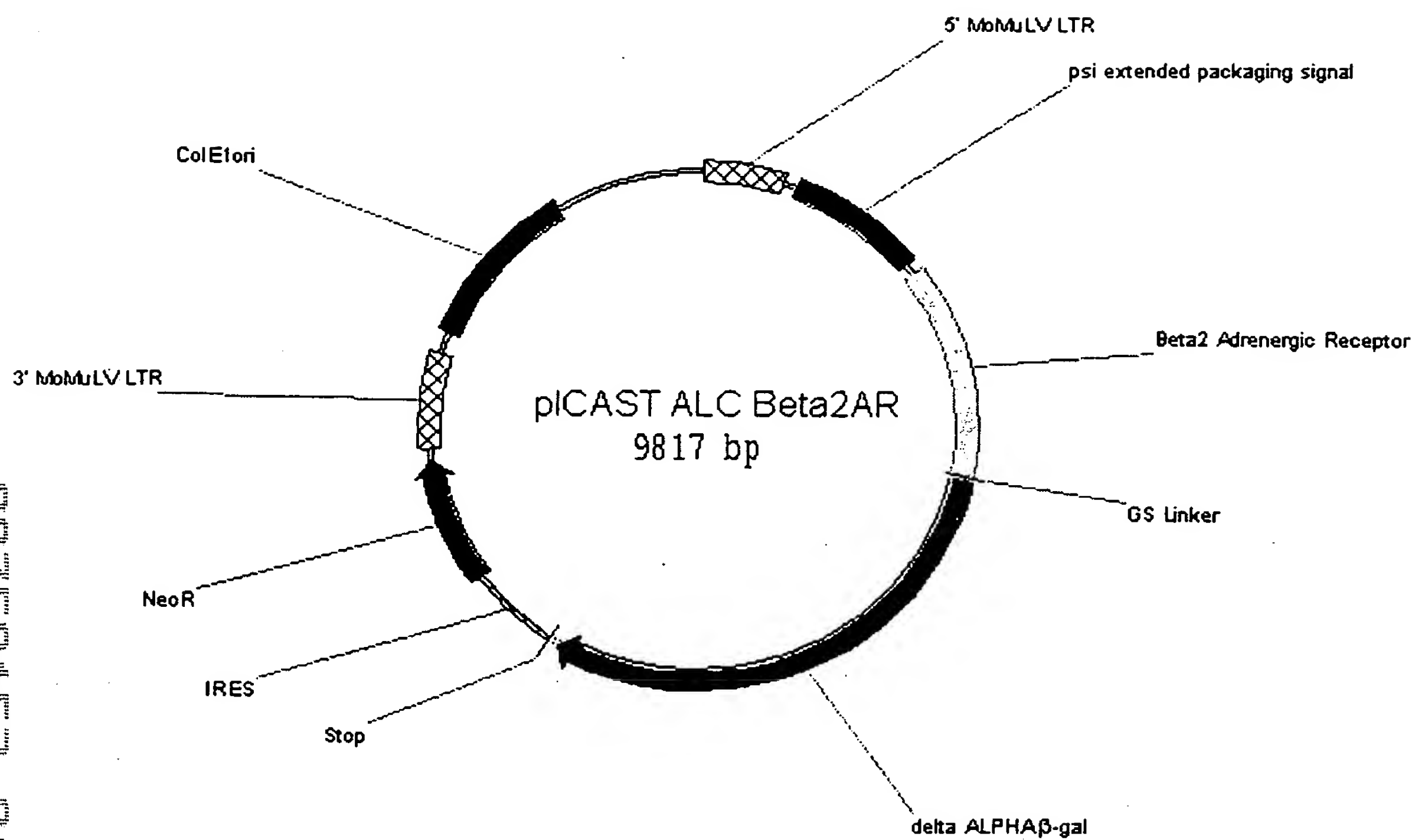


Figure 18

09759152-011601

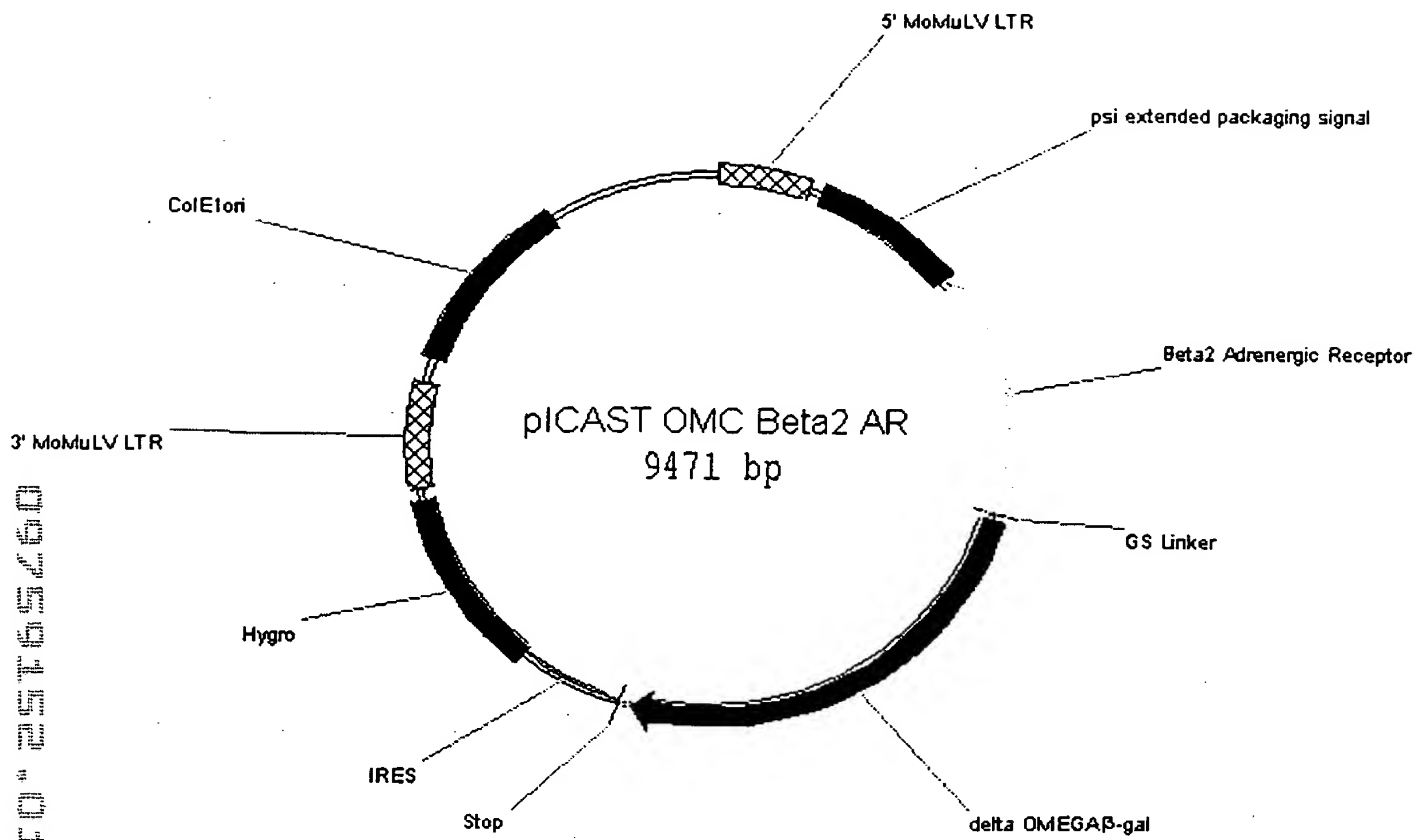


Figure 19

09759152-011601

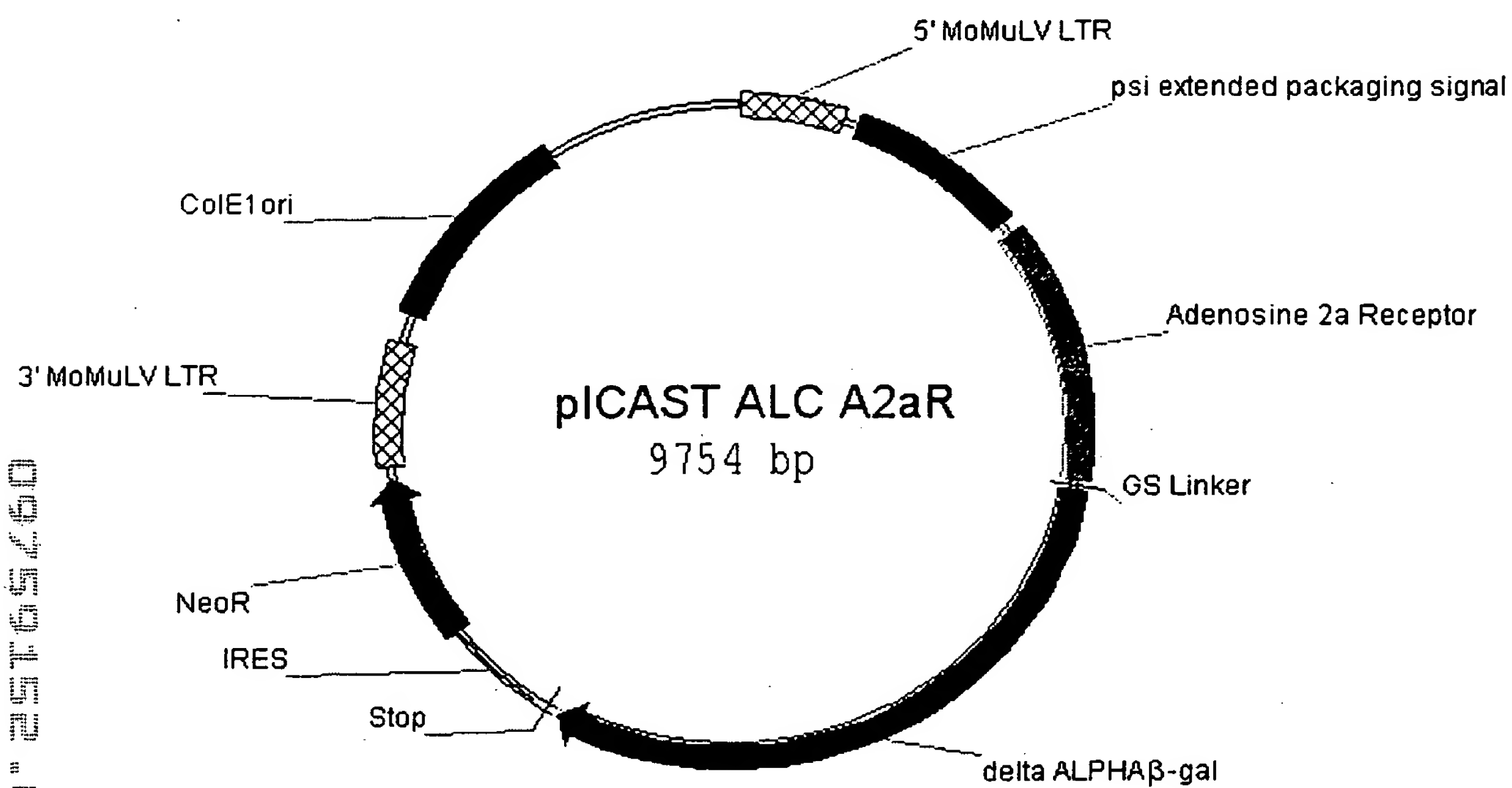


Figure 20

09759139-01601
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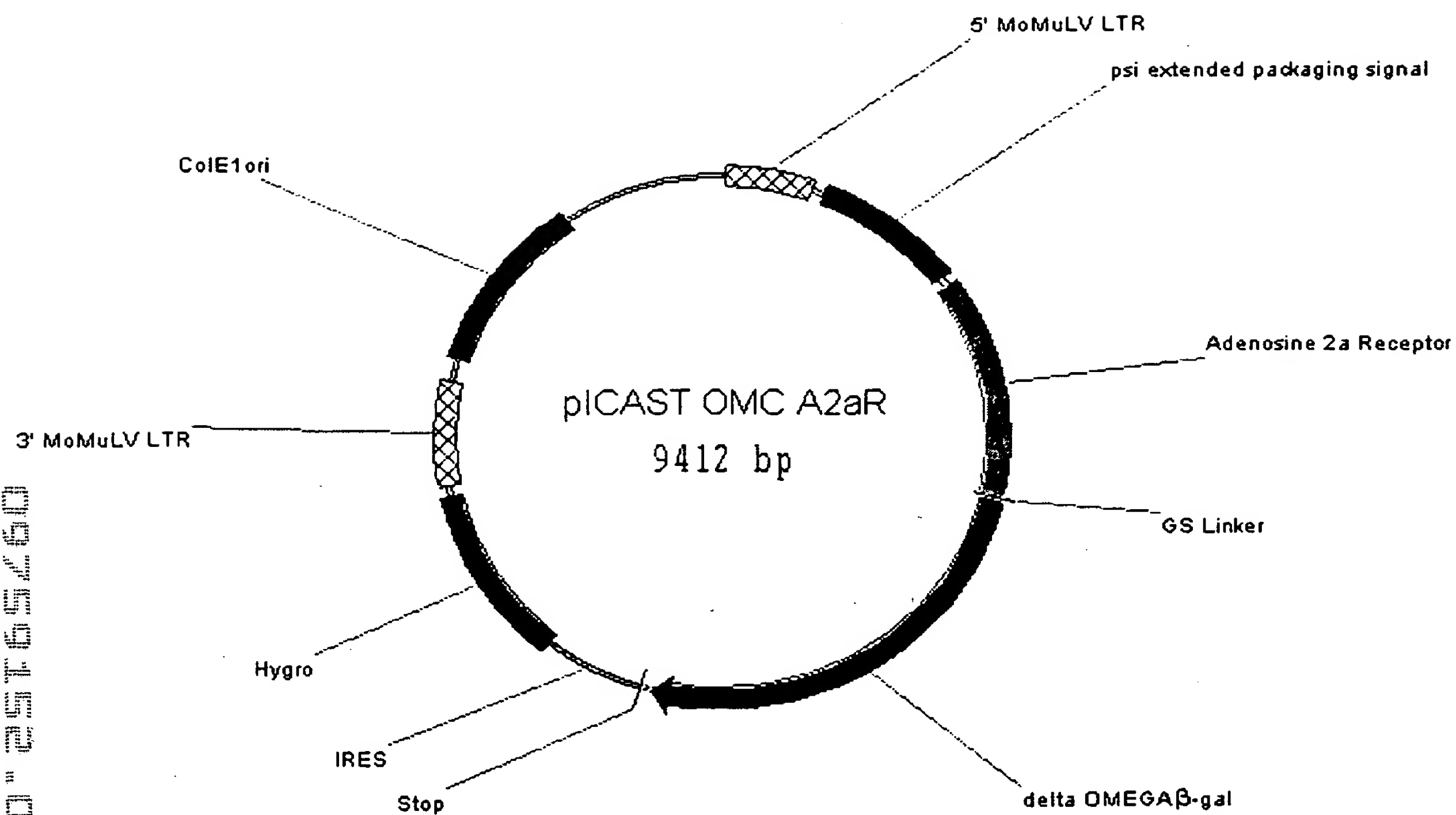


Figure 21

093313-0160
TOSTO-255/60

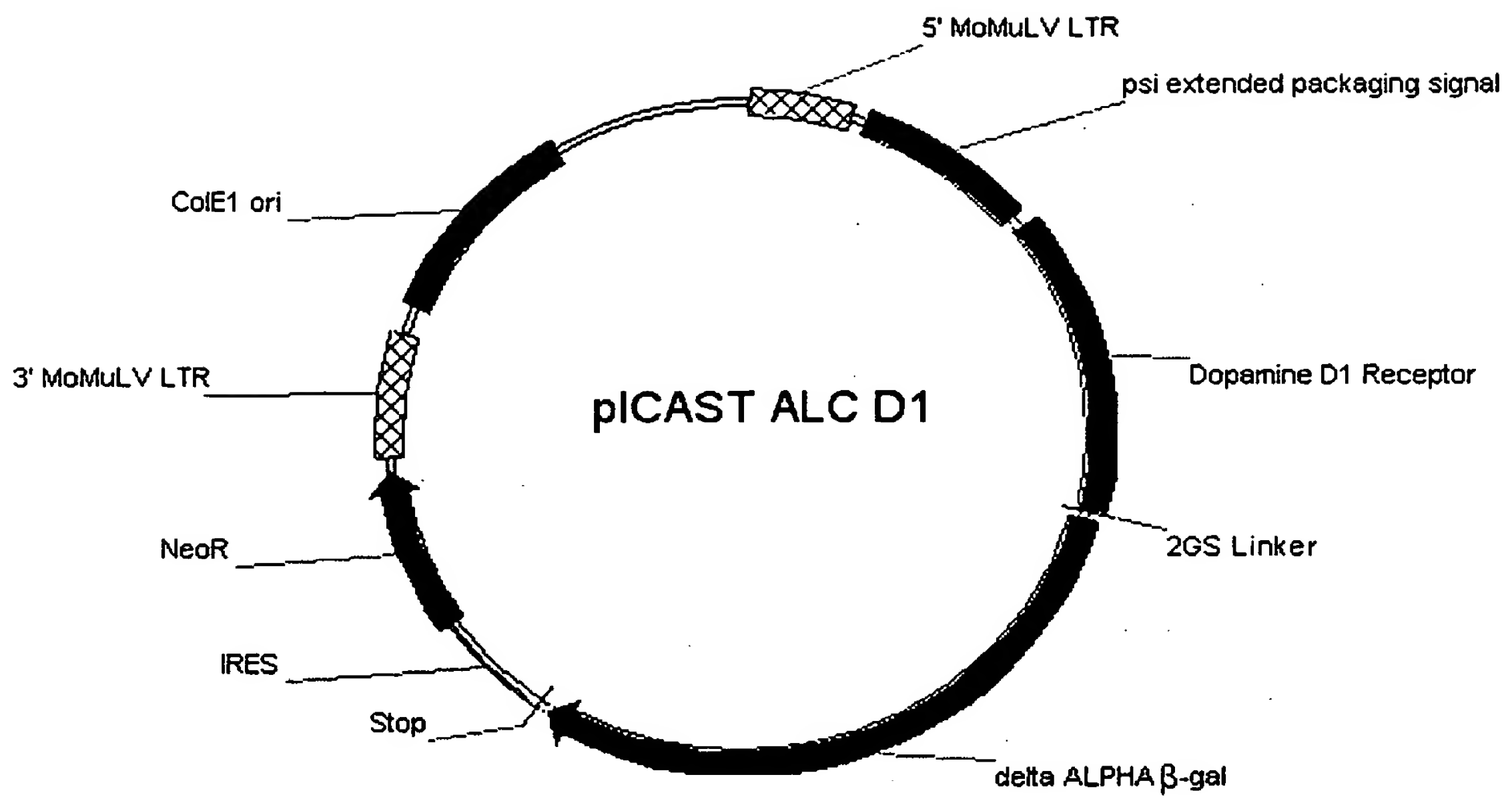
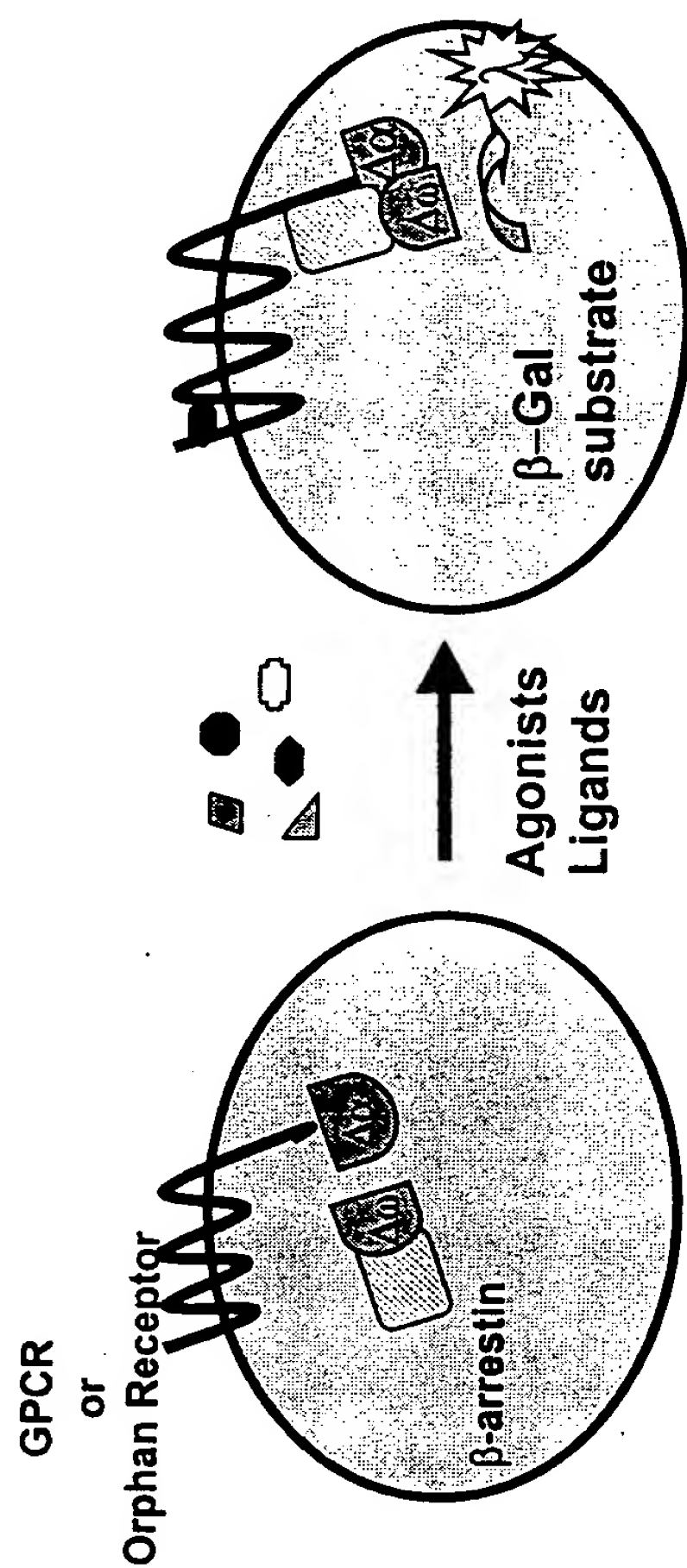


Figure 22

Functional GPCR Activation Assay and Ligand Fishing for Orphan Receptors by β -galactosidase mutant complementation in ICASTM System

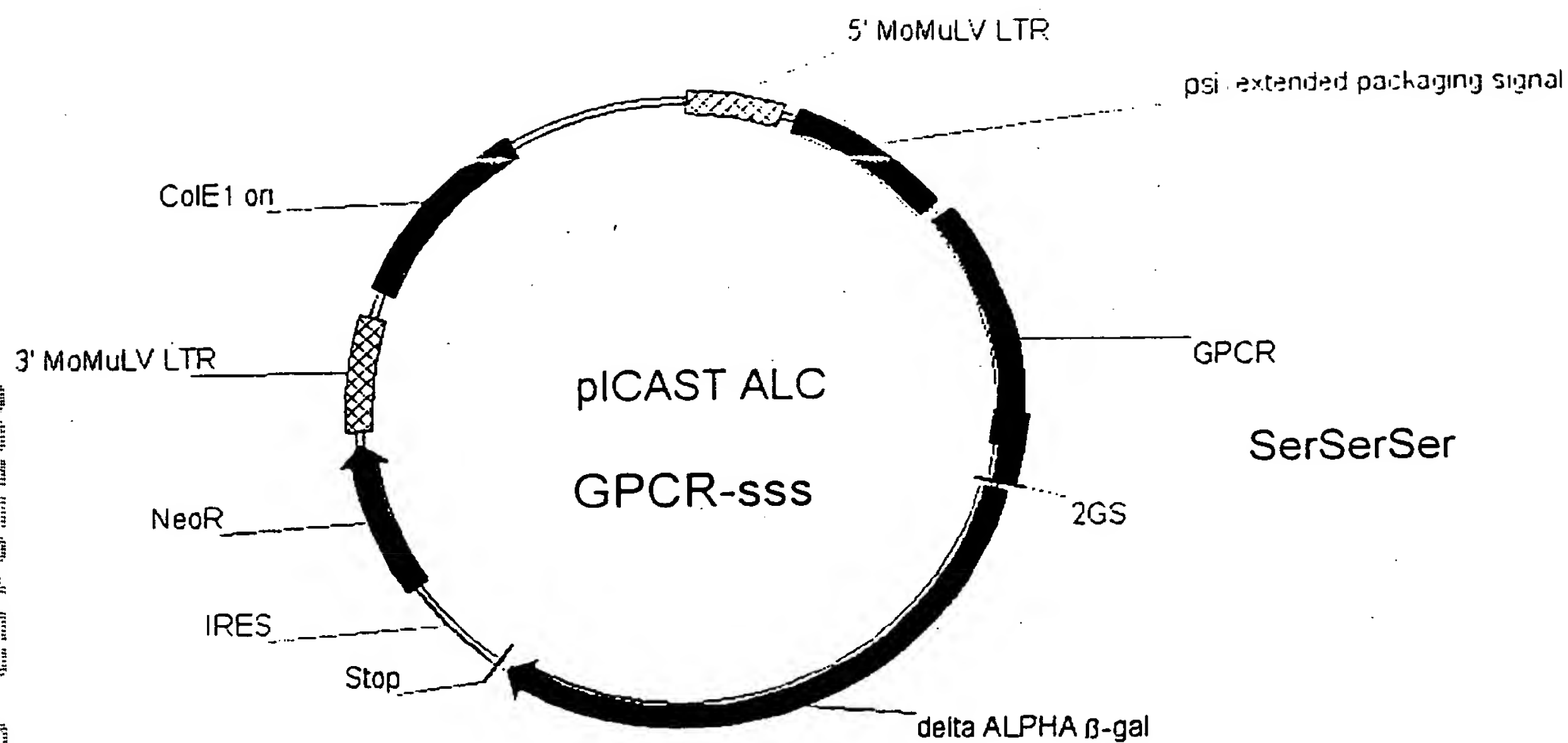


Examples



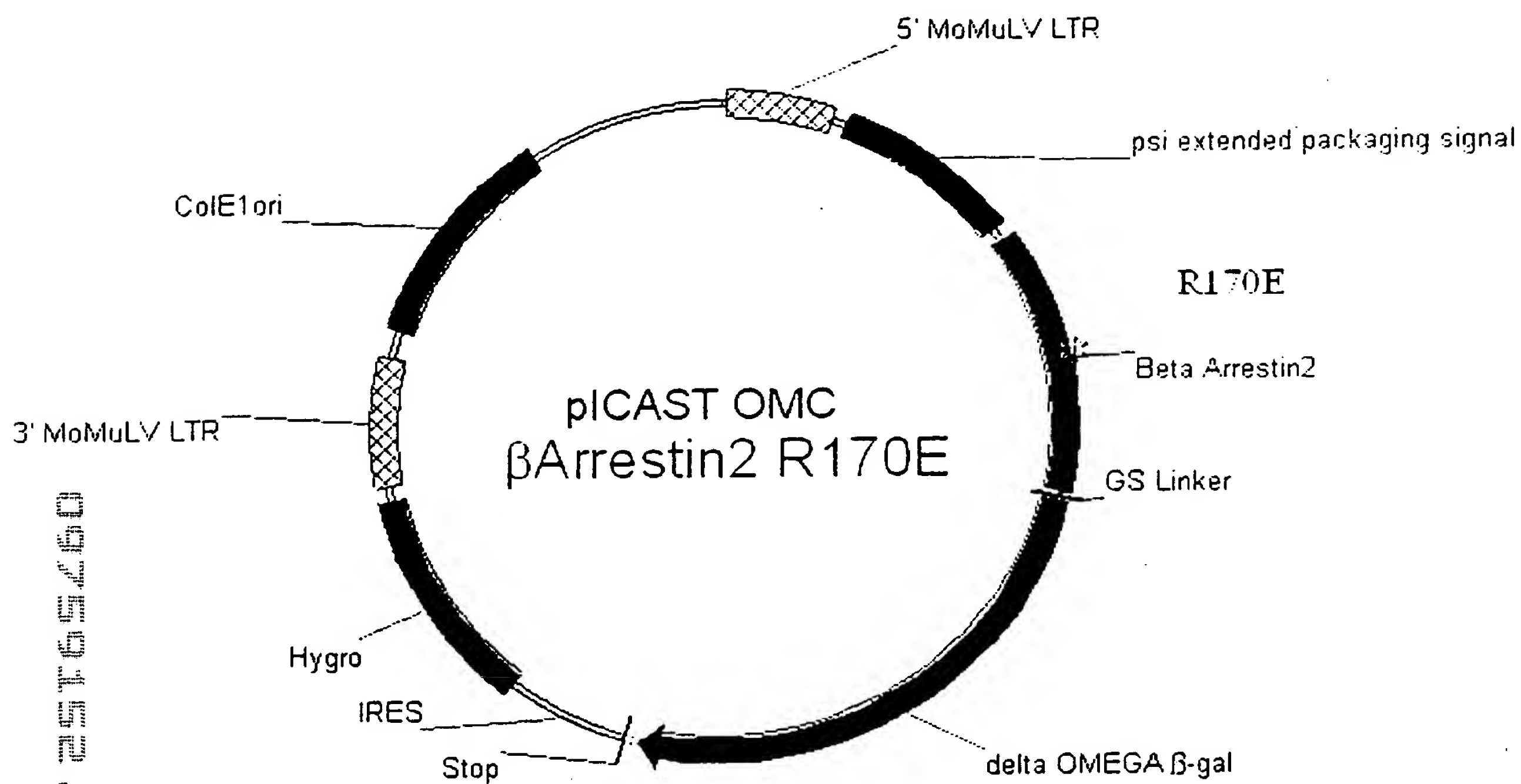
Figure 23

03759155-014504
POSTED 2576260



Vector for Expression of a GPCR with inserted Seronine/Threonine amino acid sequences as a fusion with β -gal $\Delta\alpha$.

FIGURE 24



Vector for Expression of mutant (R170E) β -arrestin2 as a fusion with β -gal $\Delta\omega$.

FIGURE 25

**Phosphorylation Insensitive Mutant R170E β -Arrestin2 $\Delta\omega$
Binds to β_2 AR $\Delta\alpha$ in Response to Agonist Activation**

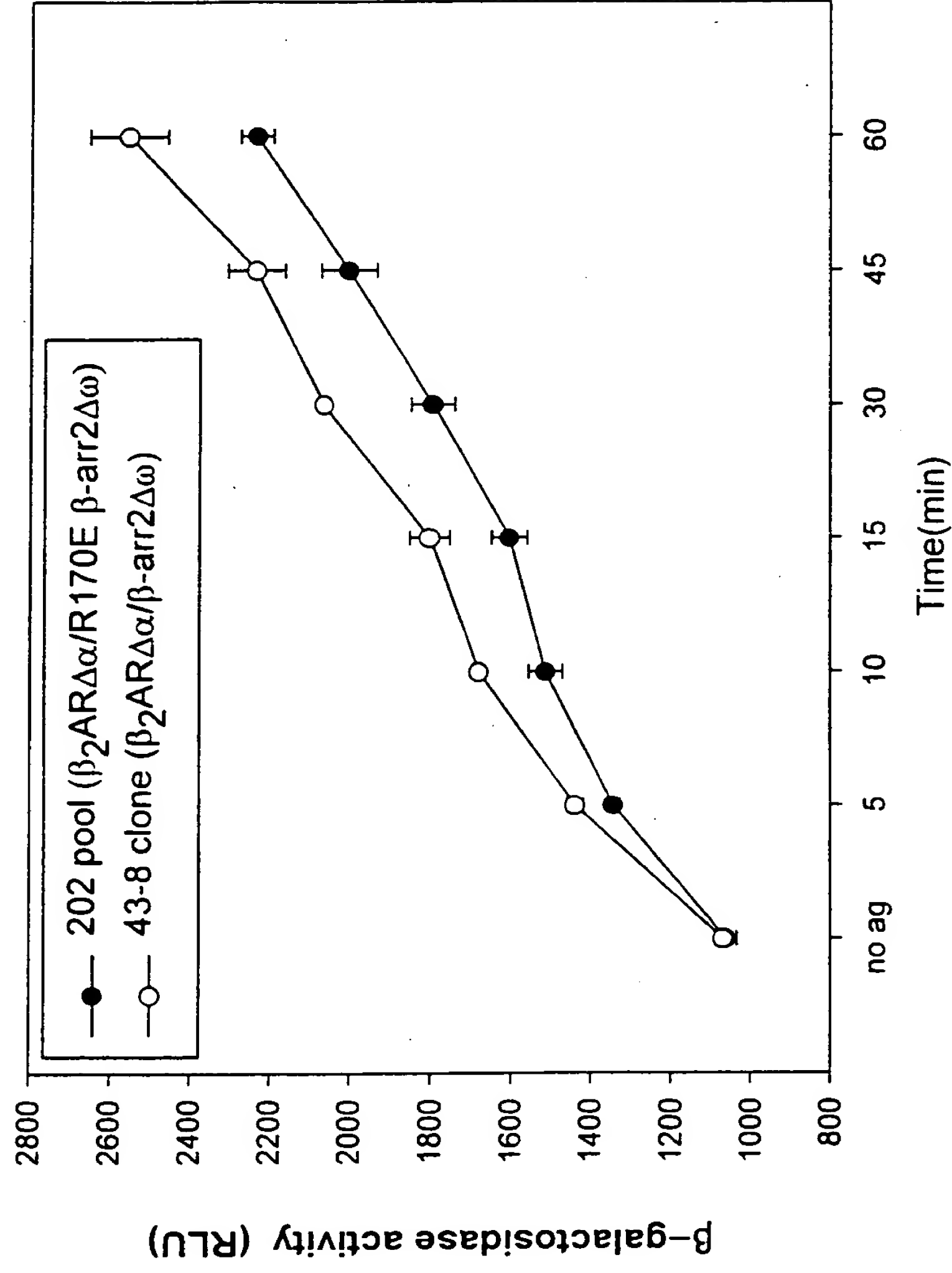
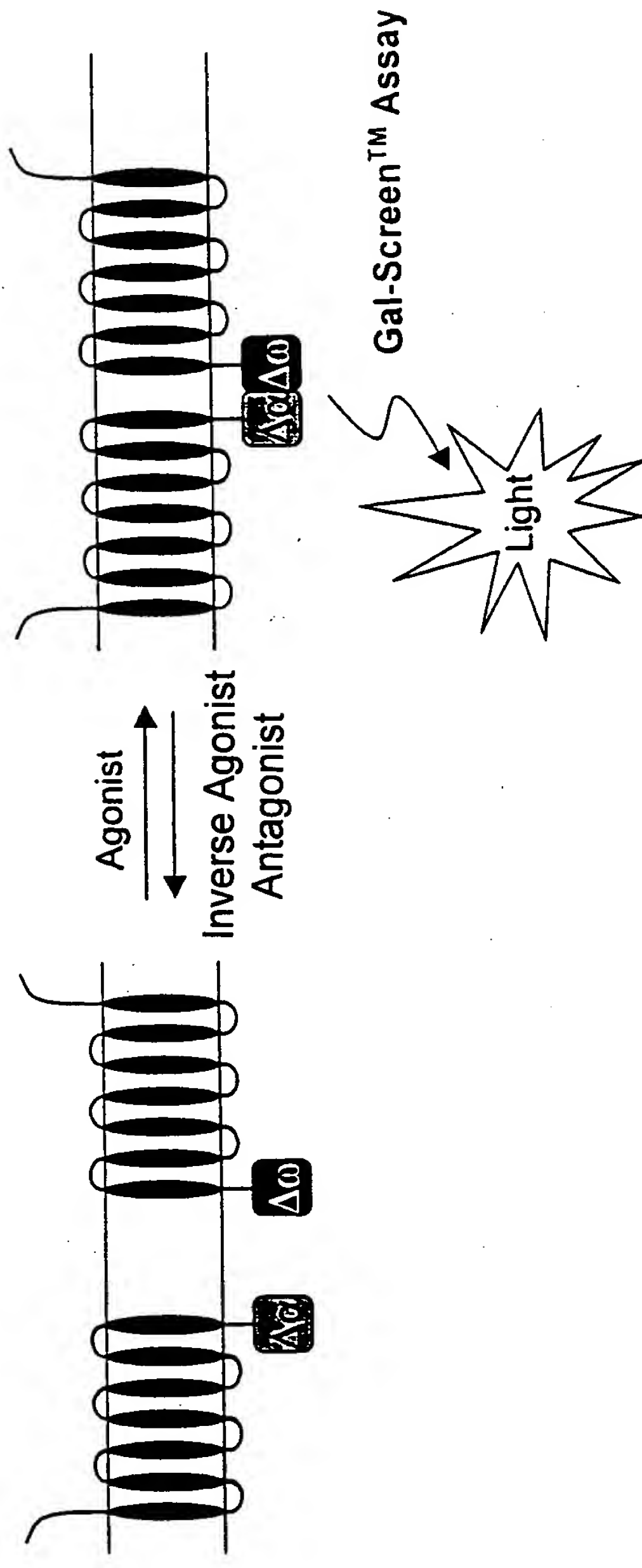


FIGURE 26

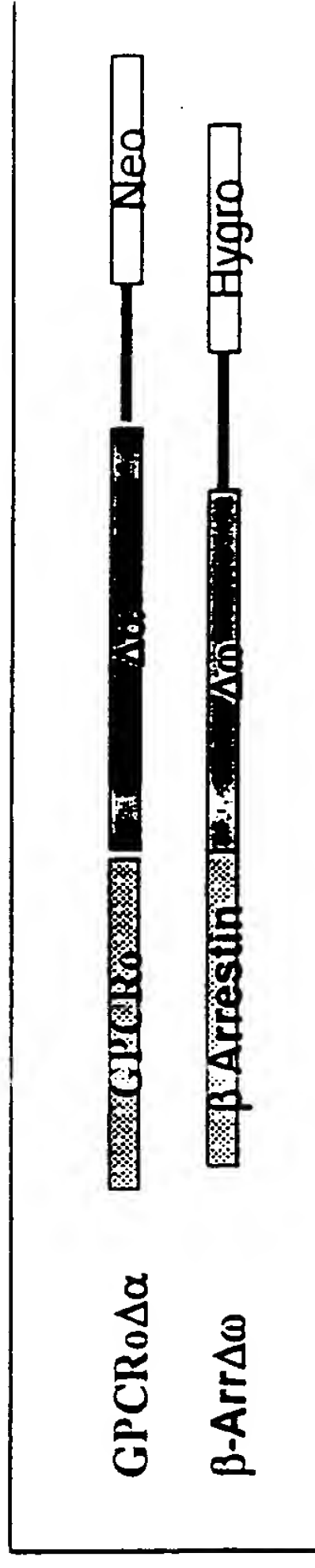
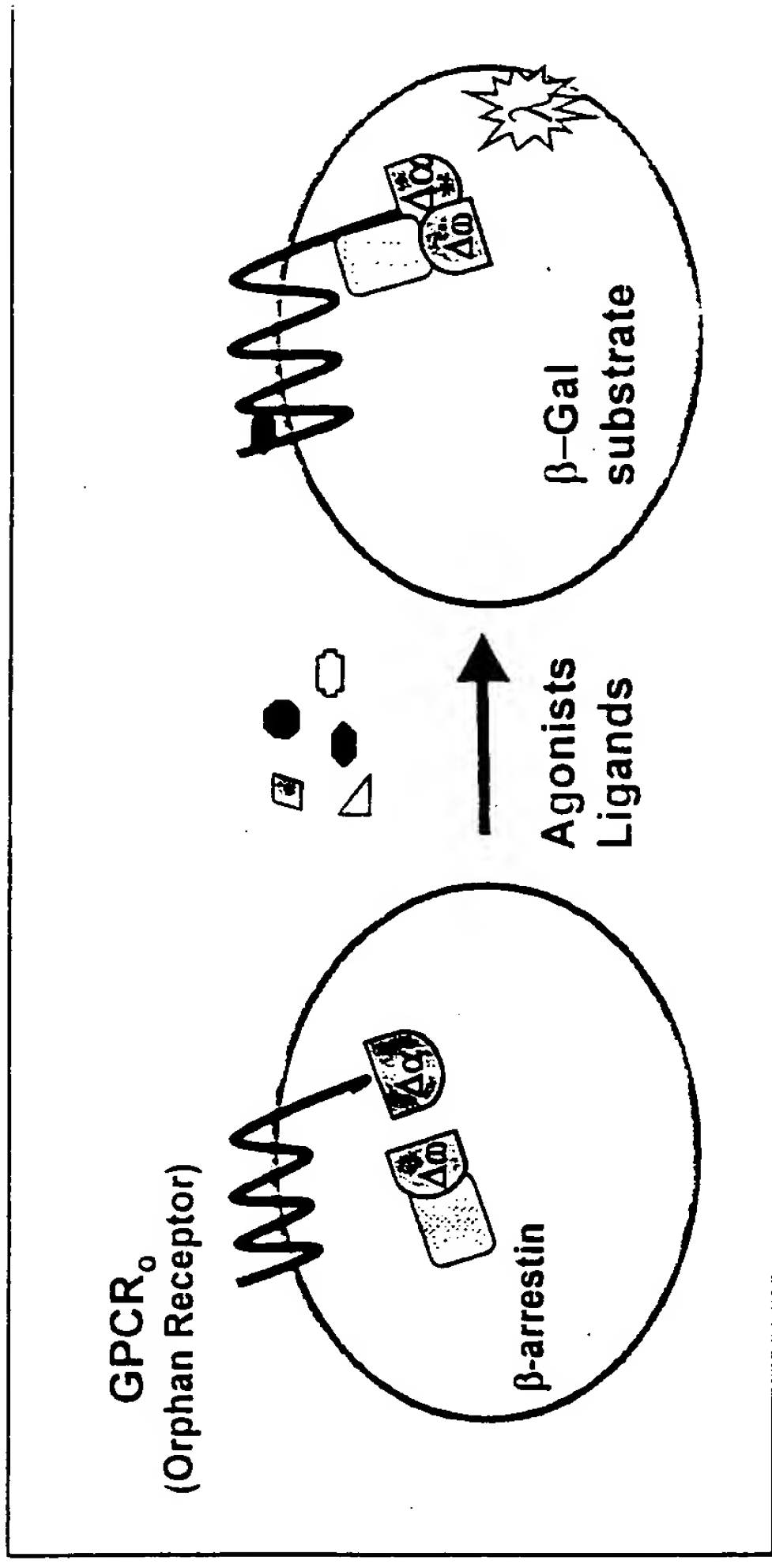


GPCR dimerization measured by β -gal complementation

FIGURE 27

Example-

FOOTNOTES



Ligand Fishing for Orphan Receptors by β-galactosidase mutant complementation in ICASTM System

FIGURE 28